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ABSTRACT

The scope and content of this traffic records course are outlined in a chart (Course Structure) and tabulation (Overview of Course Content). General course objectives follow the overview. These define for the instructor the broad objectives, module by module, which the course is designed to reach. The last part of this section gives a detailed picture of the course content, again module by module. The 12 modules (traffic records in perspective, concepts of an integrated traffic records system, crash data subsystem, driver data subsystem, vehicle data subsystem, roadway data subsystem, emergency services data subsystem, traffic law enforcement and adjudication data subsystem, educational services data subsystem, safety program management data subsystem, evaluative research in the highway safety program, and recapitulation and conclusion) are explained fully in regard to time, objectives, references used, facilities and equipment needed, classroom and study aids. A lengthy topic outline and teaching procedures for each of the 12 modules concludes the document. Appended are 24 pages of classroom aids. (BP)

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DOT/HS-820 295

BASIC COURSE IN HIGHWAY TRAFFIC RECORDS

Instructor's Guide

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
WASHINGTON, D.C.

MAY 1974

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I. SCOPE AND CONTENT OF THE COURSE

The scope and content of the Traffic Records Course are outlined in the chart "Course Structure" and the tabulation "Overview of Course Content" which follow.

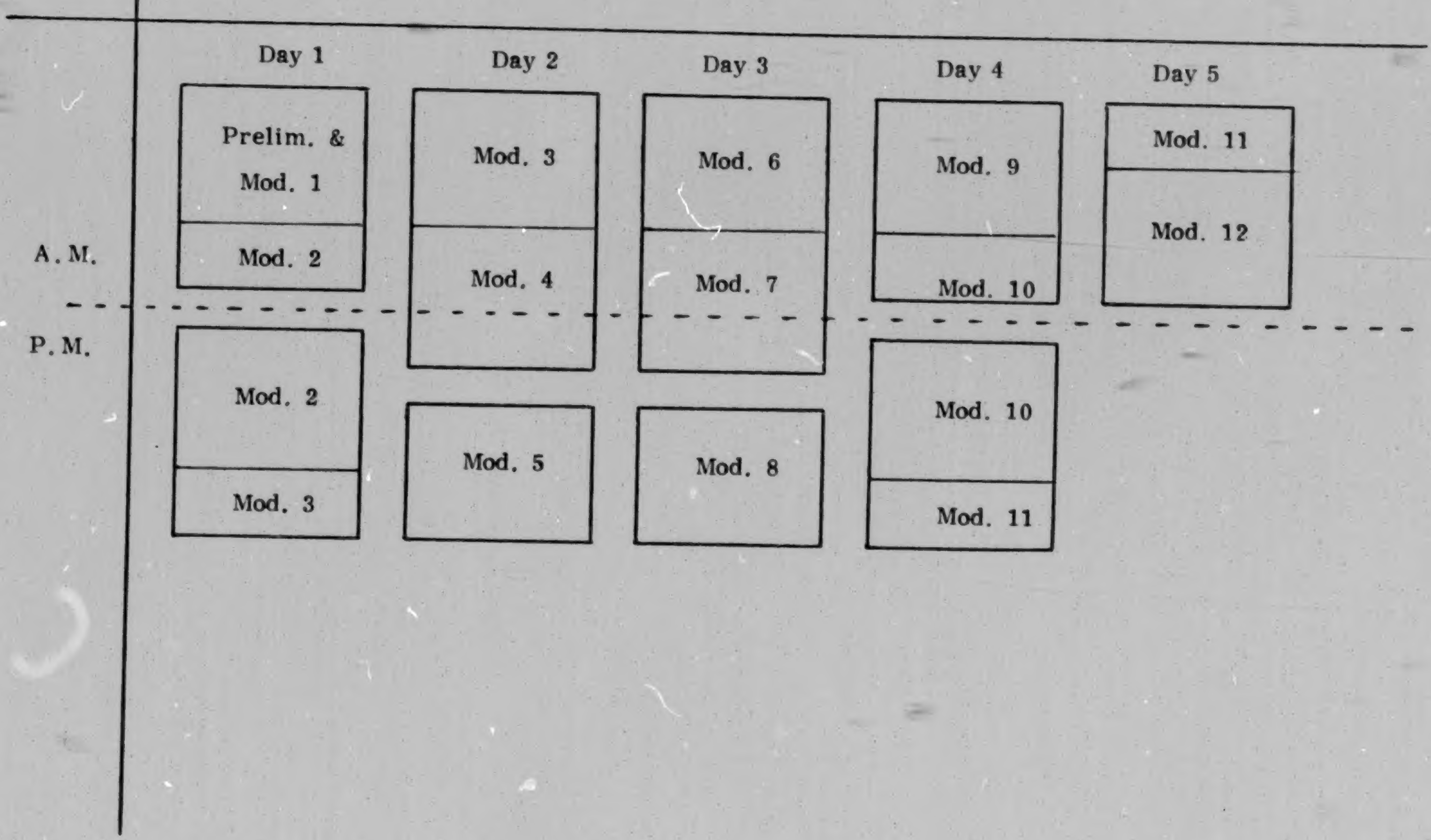
General Course Objectives follow the overview. These will define for the instructor the broad objectives, module by module, which the course is designed to reach.

The last part of this section gives a detailed picture of the course content, again module by module.

Course Structure Chart

TRAFFIC RECORDS COURSE

COURSE STRUCTURE


Day 1
Day 2
Day 3
Day 4
Day 5
A. M.
P. M.
Prelim. & Mod. 1
Mod. 2
Mod. 2
Mod. 3
Mod. 3
Mod. 4
Mod. 5
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Mod. 7
Mod. 8
Mod. 9
Mod. 10
Mod. 10
Mod. 11
Mod. 11
Mod. 12

OVERVIEW OF COURSE CONTENT

TRAFFIC RECORDS COURSE

Module	Content	Estimated Time
	BLOCK I INTRODUCTION AND BASIC CONCEPTS	
Preliminary	Welcome and Introduction • Preliminaries - Introduction of instructor(s), participants, explanation of course schedule, description of facilities available to participants • Explanation of purpose and overall objectives of course • Explanation of course approach and procedures	30 Min.
1	Traffic Records in Perspective: A Key to the Highway Safety Program • The Highway Safety Program • Traffic Records in Perspective	1 Hr., 30 Min.
2	Concepts of an Integrated Traffic Records System • Content of traffic records • Examples of user requirements for Highway Traffic Safety Data • Functions and organization of an Integrated Traffic Records System	3 Hrs.
	BLOCK II DATA REQUIREMENTS, SOURCES, USES	
3	Crash Data Subsystem • Central Importance of Crash Data to Traffic Records System • Crash Data required by Highway Safety Program • Uses of Crash Data • Sources and means of Collecting Crash Data	3 Hrs.

Module	Content	Estimated Time
3 (continued)	• Coding conventions • Illustrations of Crash Data Requirements and Uses (Guest Speaker from Law Enforcement Agency) • Problem-Solving/Discussion Period	
4	Driver Data Subsystem • Driver Data required by Highway Safety Program • Uses of Driver Data, by Safety Program Area • Sources and means of Collecting Driver Data • Coding conventions • Illustrations of Driver Data Requirements and Uses (Guest speaker from Driver's Licensing Agency) • Problem-Solving/Discussion Period	2 Hrs.
5	Vehicle Data Subsystem • Vehicle Data required by Highway Safety Program • Uses of Vehicle Data, by Safety Program Area • Sources and means of Collecting Vehicle Data • Coding conventions • Illustrations of Vehicle Data Requirements and Uses (Guest speaker from Vehicle Registration Agency) • Problem-Solving/Discussion Period	2 Hrs.
6	Roadway Data Subsystem • Roadway Data required by Highway Safety Program • Uses of Roadway Data, by Safety Program Area • Sources and means of Collecting Roadway Data • Coding conventions • Illustrations of Roadway Data Requirements and Uses (Guest speaker from Highway Department) • Problem-Solving/Discussion Period	2 Hrs.

Module	Contents	Estimated Time
7	Emergency Services Data Subsystem	2 Hrs.
	• Emergency Services Data required by Highway Safety Program	
	• Uses of Emergency Services Data, by Safety Program Area	
	• Sources and Means of Collecting Emergency Services Data	
	• Coding conventions	
	• Problem-Solving/Discussion Period	
8	Traffic Law Enforcement and Adjudication Data Subsystem	2 Hrs.
	• Law Enforcement/Adjudication Data required by Highway Safety Program	
	• Uses of Traffic Law Enforcement/Adjudication Data	
	• Sources and Means of Collecting Data	
	• Coding conventions	
	• Illustrations of Data Requirements and Uses (Guest speaker from Law Enforcement Agency)	
	• Problem-Solving/Discussion Period	
9	Educational Services Data Subsystem	2 Hrs.
	• Educational Services Data required by Highway Safety Program	
	• Uses of Educational Services Data, by Safety Program Area	
	• Sources and Means of Collecting Educational Services Data	
	• Coding conventions	
	• Problem-Solving/Discussion Period	
10	Safety Program Management Data Subsystem	3 Hrs.
	• Safety Program Management Data required by Highway Safety Program	
	• Uses of Safety Program Management Data	
	• Sources and Means of Generating Data	
	• Coding conventions	
	• Problem-Solving/Discussion Period	

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BLOCK III
TRAFFIC DATA ANALYSIS AND CONCLUSION

Module	Contents	Estimated Time
11	Evaluative Research in the Highway Safety Program	2 Hrs.
	• Fundamental Concepts of Evaluation	
	• Defining Program Objectives	
	• Types of Evaluation	
	• Design of Analyses	
	• Interpretation of Findings	
12	Recapitulation and Conclusion	2 Hrs.
	• Recapitulation of Main Topics	
	• Discussion Period	

8/9

GENERAL COURSE OBJECTIVES

BLOCK I

Module 1. Upon completion of Module 1, the participant will be able to demonstrate:

1.1 A knowledge of the Highway Safety Program Subject Areas and an understanding of their relation to the purpose of the Program.

1.2 An appreciation of the importance of traffic records, and an Integrated Traffic Records System, to the success of the Highway Safety Program.

Module 2. Upon completion of Module 2, the participant will be able to demonstrate:

2.1 A knowledge of the contents of traffic records and the user data requirements of a Traffic Records System.

2.2 An understanding of the way in which an Integrated Traffic Records System can be organized to fulfill user and program requirements.

BLOCK II

Module 3. Upon completion of Module 3, the participant will be able to demonstrate:

3.1 An understanding of the central importance of Crash Data to a Traffic Records System, including a knowledge of the data elements in the Crash Data Subsystem, and a knowledge of its uses.

3.2 A knowledge of the sources and means of collecting data relating to the pre-crash, crash, and post-crash phases of traffic crashes.

3.3 An acquaintance with standard coding conventions recommended for Crash Data.

3.4 An appreciation of the ways in which the collection, coding, and reporting of Crash Data impact upon his own functions in the Traffic Records System.

Module 4. Upon completion of Module 4, the participant will be able to demonstrate:

4.1 A knowledge of the data elements in the Driver Data Subsystem and a knowledge of its uses.

4.2 A knowledge of the sources of Driver Data and means of collecting it.

4.3 An acquaintance with standard coding conventions recommended for Driver Data.

4.4 An appreciation of the ways in which the collection, coding, and reporting of Driver Data impact on his own functions in the Traffic Records System.

Module 5. Upon completion of Module 5, the participant will be able to demonstrate:

5.1 A knowledge of the data elements in the Vehicle Data Subsystem and a knowledge of its uses.

5.2 A knowledge of the sources of Vehicle Data and means of collecting it.

5.3 An acquaintance with standard coding conventions recommended for Vehicle Data.

5.4 An appreciation of the ways in which the collection, coding, and reporting of Vehicle Data impact on his own functions in the Traffic Records System.

Module 6. Upon completion of Module 6, the participant will be able to demonstrate:

6.1 A knowledge of the data elements in the Roadway Data Subsystem and a knowledge of its uses.

6.2 A knowledge of the sources of Roadway Data and means of collecting it.

6.3 An acquaintance with standard coding conventions recommended for Roadway Data.

6.4 An appreciation of the ways in which collection, coding, and reporting of Roadway Data impact on his own functions in the Traffic Records System.

Module 7. Upon completion of Module 7, the participant will be able to demonstrate:

7.1 A knowledge of the data elements in the Emergency Services Data Subsystem and a knowledge of its uses.

7.2 A knowledge of the sources of Emergency Services Data, and means of collecting it.

7.3 An acquaintance with standard coding conventions recommended for Emergency Services Data.

7.4 An appreciation of the ways in which the collection, coding, and reporting of Emergency Services Data impact on his own functions in the Traffic Records System.

Module 8. Upon completion of Module 8, the participant will be able to demonstrate:

8.1 A knowledge of the data elements in the Traffic Law Enforcement and Adjudication Data Subsystem and a knowledge of its uses.

8.2 A knowledge of the sources of Traffic Law Enforcement and Adjudication Data and the means of collecting it.

8.3 An acquaintance with standard coding conventions recommended for Traffic Law Enforcement and Adjudication Data.

8.4 An appreciation of the ways in which the collection, coding and reporting of Traffic Law Enforcement and Adjudication Data impact on his own functions in the Traffic Records System.

Module 9. Upon completion of Module 9, the participant will be able to demonstrate:

9.1 A knowledge of the data elements in the Educational Services Data Subsystem and a knowledge of its uses.

9.2 A knowledge of the sources of Educational Services Data and means of collecting it.

9.3 An acquaintance with standard coding conventions recommended for Educational Services Data.

9.4 An appreciation of the ways in which the collection, coding, and reporting of Educational Services Data impact on his own functions in the Traffic Records System.

Module 10. Upon completion of Module 10, the participant will be able to demonstrate:

10.1 A knowledge of the data elements in the Safety Program Management Data Subsystem and a knowledge of its uses.

10.2 A knowledge of the sources of Safety Program Management Data and means of generating it.

10.3 An acquaintance with standard coding conventions recommended for Safety Program Management Data.

10.4 An appreciation of the ways in which the generation, coding, and reporting of Safety Program Management Data impact on his own functions in the Traffic Records System.

BLOCK III

Module 11. Upon completion of Module 11, the participant will be able to demonstrate:

11.1 An understanding of certain terms and concepts fundamental to evaluative research:

- Evaluation
- Evaluative research
- Values; goals
- Independent, dependent variables
- Value assumption; validity assumption

11.2 A recognition of immediate and ultimate objectives in a Highway Safety Program.

11.3 A knowledge of several categories of criteria for program evaluation in the field of Traffic Safety.

11.4 A knowledge of the basic model for an evaluative research design, and several variations as they relate to the Highway Safety Program.

11.5 An understanding of reliability and validity in the interpretation of data in Highway Safety Program evaluation.

Module 12. Upon completion of Module 12, the participant will be able to demonstrate:

12.1 An appreciation of his own role in an Integrated Traffic Records System, and in the Highway Safety Program, in general.

Course Content Outline

TRAFFIC RECORDS COURSE

COURSE CONTENT

BLOCK I. INTRODUCTION AND BASIC CONCEPTS

Block I of the course provides a general orientation to the topic of traffic records in the context of the Federal Highway Safety Program, and a presentation of the fundamental concepts of an integrated Traffic Records System. The block is divided into two instructional modules.

Module 1. Traffic Records in Perspective: A Key to the Highway Safety Program

The participants in the Traffic Records Course will presumably arrive at the first session representing a range of job responsibilities and a range of subject areas in which their jobs require knowledge and skills, as well as a range in levels of competency in those skills. Module 1 of the course is designed to accommodate such a range by quickly placing the whole topic of traffic records in perspective, as one of several Highway Safety Program areas (albeit a crucial one upon which all of the others are in some way dependent), and providing early evidence to the participants that there is much to be learned from the course, regardless of the particular agency the participant represents or the level of sophistication of his particular state's current Traffic Records System. The module is organized as follows:

1.1 Introduction. The objectives of Module 1.

1.2 The Highway Safety Program. Purposes of the Program: review of the Program content.

1.3 Traffic Records in Perspective. An explanation of the importance of the Traffic Records System to the Highway Safety Program in general, and a discussion of the role of those who operate Traffic Record Systems.

1.3.1 Dependence of the Highway Safety Program on Traffic Records. Brief description of how Traffic Safety Data supports the overall Highway Safety Program, as outlined in Chapter I of Vol. 10 of the Highway Safety Program Manual.

1.3.2 Traffic Records Staff. Brief description of the roles which members of state and local agency staffs may play in a Traffic Records System.

- Identification of persons who operate State Traffic Records Systems (as including class participants)
- Traffic Records Coordinators:
  Brief description of functions
- Traffic Records Program Analysts:
  Brief description of functions

Module 2. Concepts of an Integrated Traffic Records System

Module 2 of the course is designed to familiarize participants with the essential elements of an integrated traffic records system, and to develop in them an appreciation for the importance of such a system to the fulfillment of the overall purposes of the Highway Safety Program as well as for the usefulness the system can have to the day-to-day functions of their agencies.

2.1 Introduction. The objectives of Module 2.

2.2 The Content of Traffic Records. A description of the elements of Traffic Records which collectively comprise the data for the system, and the primary categories of sources/users of the data.

2.2.1 Entities in data

- Driver
- Vehicle
- Roadway

2.2.2 Events producing data

- Crashes
  - Fatalities
  - Injuries
  - Property damage
- Non-crash traffic violations

2.2.3 Data regarding counter-measures

- Emergency medical services
- Law enforcement and adjudication
- Educational services

2.3 User Requirements for Highway Traffic Safety Data

Discussion of the uses of traffic data in relation to specific agencies. Uses, by agency, will include both those uses relating specifically to the agency's role in implementing an aspect of the Highway Safety Program, and the uses that are not necessarily program-related.

2.3.1 State and National Agencies. For each of the categories of agency listed below, a discussion is included of specific uses or requirements of data from the Traffic Records System -- typical current uses and potential future uses.

- State offices of Highway Safety
- Traffic law enforcement agencies
- Courts
- Driver's licensing agency
- Motor vehicle registration agency
- Highway departments
- Medical service agencies
- Traffic Safety Education Agencies
- NHTSA
- FHWA

2.3.2 Private agencies. A brief discussion of the requirements of private agencies and organizations which the Traffic Records System can or does help to meet. Uses are identified and discussed in connection with a representative number of agencies, such as the following:

- National Safety Council
- Insurance companies

2.4 Functions and Organization of an Integrated Traffic Records System A description of the way in which Traffic Records Systems can be organized to fulfill user and program requirements.

2.4.1 General Objectives of System. A review of the general objectives to be sought in designing the system.

- Availability of adequate and accurate data for program planning and implementation
- Collection and storage of data pertaining to each element of traffic safety (e.g., vehicles, roadways)
- Compatibility without duplication among data systems in such a way that data is usable at National, State, and local levels.
- Appropriate basis for analysis of traffic safety problems, and for design of countermeasures to help solve them.

2.4.2 System and Data Base Integration. A discussion of the conceptual approach of the integrated system.

- Definition of an Integrated Traffic Records System
- Reasons for an Integrated System
- Characteristics of an Integrated System

2.4.3 Extent of Automation and Centralization Required for an Integrated Traffic Records System.

- Organization of Processing System
- Entry of Source Data
- Interconnection of System through Communications
- Discussion of advantages of different types of systems

2.4.4 Data Base Subsystems in an Integrated Traffic Records System. A general explanation of how the data base subsystems are organized to achieve the objectives of the System.

- Categories of Data Base Information
- Data Base Elements
- Data Base File Structure and Relationships

2.4.5 Functions of a Traffic Records Processing System. A discussion of the data processing operations needed for an integrated Traffic Records System.

2.4.6 System Support Functions

- Data Collection and Conversion
- Data Output and Dissemination

2.5 Problem-Solving/discussion period. A problem-solving exercise and/or discussion focusing on one or more important points discussed in Module 2.

BLOCK II. TRAFFIC DATA REQUIREMENTS, SOURCES, USES BY SUBSYSTEM

Block II of the course is organized on the basis of the data subsystems discussed in Module 2 of Block I. In Block II, one module is devoted to each of the eight data subsystems and, for each subsystem, it considers the following aspects of the data: (1) the requirements for data collection and reporting implicit in the Highway Safety Program; (2) the specific elements of data included in the subsystem, the purposes for which they are collected, the sources, the mode of collecting and coding; and (3) current uses to which the data is put.

Module 3. Crash Data Subsystem

The Crash (accident) Data Subsystem is the first discussed because crash data is in a real sense the "heart of the matter". In the context of the Highway Safety Program, the data elements of the other subsystems are significant primarily in terms of their relationship to crash data. Furthermore, in terms of the Highway Safety Program, individuals from all agencies may be expected to be equally interested in crash data to an extent that would not be expected with driver, vehicle or roadway data, for example, which might be expected to interest primarily persons coming from the driver's licensing, vehicle registration, and highway agencies, respectively. Thus, crash data is considered first for reasons both of logical sequence and motivation.

3.1 Introduction. Objectives of Module 3.

3.2 Central importance of Crash Data Subsystem to Traffic Records System. Explanation of relation of crash data to other data categories, with illustrations.

3.3 Crash data required by Highway Safety Program. An enumeration of the elements of crash data considered necessary in relation to the various program areas within the Highway Safety Program.

3.4 Uses of crash data. A discussion of the primary purposes for which crash data are collected -- considered by program area.

3.5 Sources and Means of Collecting. A discussion of the sources of data relating to the pre-crash, crash and post-crash phases of traffic crashes (e.g., the standard police traffic collision reports, and driver reports).

3.6 Coding Conventions. Examples of coded crash data items (as listed in Part II of the Design Manual for State Traffic Records Systems).

3.7 Specific examples of requirements for and uses of crash data, by guest speaker from Law Enforcement Agency. Realistic examples of requirements and uses, together with a discussion of problems relating to collection and reporting of data, and input of data to the system and access to it. Representative from State agency will be selected for his breadth of experience, and knowledge of the records field (see Section 8.5 under Module 8).

3.8 Problem-solving/discussion period. A problem-solving exercise or a discussion either of problems raised by guest speaker or other problems pertaining to Module 3 content.

Module 4. Driver Data Subsystem

Having been considered in a limited way in Module 3, to the extent that it forms a part of crash data, driver data will in Module 4 be considered in the broader perspective of the Driver Data Subsystem, as it is collected and/or reported in connection with all the other Highway Safety Program areas (e.g., Driver's Licensing, Traffic Safety Education, Vehicle Requirements, Police Traffic Services, etc.)

4.1 Introduction. Objectives of Module 4.

4.2 Driver data required by Highway Safety Program. An enumeration of the elements of driver data considered necessary to the attainment of objectives in the various program areas within the Highway Safety Program.

4.3 Uses of driver data. A discussion of the purposes for collecting driver data, considered by program area.

4.4 Sources and means of collecting. A discussion of the sources of driver data, i.e., the agencies and programs through which collected.

4.5 Coding Conventions. Examples of coded driver data items (as listed in Part II of the Design Manual for State Traffic Records Systems).

4.6 Specific examples of requirements for and uses of driver data, by guest speaker from Driver's Licensing Agency. Realistic examples of data requirements/uses, together with a discussion of problems relating to the collection and reporting of data, as well as the input of data into the Traffic Records System and access to it.

4.7 Problem-solving/discussion period. A discussion focusing on an important problem or problems relating to the collecting, analyzing, and/or reporting of driver data.

Module 5. Vehicle Data Subsystem

As with driver data in Module 4, vehicle data will be considered, in Module 5, in the broader perspective of the Vehicle Data Subsystem. It will be examined in connection with all of the Highway Safety Program areas to which it pertains (e.g., Vehicle Registration, Vehicle Inspection, Traffic Law Enforcement, etc.)

5.1 Introduction. Objectives of Module 5.

5.2 Vehicle data required by Highway Safety Program. An enumeration of the elements of vehicle data considered needed to attain the objectives of the Highway Safety Program.

5.3 Uses of vehicle data. A discussion of the purposes for collecting vehicle data, considered by program area.

5.4 Sources and means of collecting. A discussion of the sources of vehicle data, i.e., the agencies and programs through which the data is collected.

5.5 Coding Conventions. Examples of coded items of vehicle data (as listed in Part II of the Design Manual for State Traffic Records Systems)

5.6 Specific examples of requirements for and uses of vehicle data, by guest speaker from Vehicle Registration Agency. Examples from speaker's experience, together with a discussion of problems relating to the collection and reporting of data, as well as input of data into the system and access to it.

5.7 Problem-solving/discussion period. A discussion focusing on an important problem or problems relating to the collecting, analyzing, and/or reporting of vehicle data.

Module 6. Roadway Data Subsystem

As with driver and vehicle data in the preceding modules, roadway data will be treated in Module 6 in the broader perspective of the Roadway Data Subsystem. It will be examined in relation to all Highway Safety Program areas to which it pertains (e.g., Highway Engineering, Traffic Engineering, Public Health, Law Enforcement, Traffic Adjudication).

6.1 Introduction. Objectives of Module 6.

6.2 Roadway data required by Highway Safety Program. An enumeration of the elements of roadway data considered necessary to the attainment of the Highway Safety Program objectives.

6.3 Uses of roadway data. A discussion of the purposes for collecting roadway data, considered by program area.

6.4 Sources and means of collecting. A discussion of the sources of roadway data, i.e., agencies and programs through which data is collected.

6.5 Coding Conventions. Examples of coded roadway data (as listed in Part II of the Design Manual for State Traffic Records Systems).

6.6 Specific examples of requirements for and uses of roadway data, by guest speaker from Highway Department. Examples from speaker's experience, together with a discussion of problems relating to the collection and reporting of data, and relating to the input of data into the Traffic Records System and access to it.

6.7 Problem-solving/discussion period. A discussion focusing on a problem or problems relating to the collecting, analyzing, and/or reporting of roadway data.

Module 7. Emergency Services Data Subsystem

The subsystems discussed in the preceding modules deal with data relating to traffic crashes, and the basic causative elements in crashes -- the driver, the vehicle, and the roadway. Module 7 and the succeeding two modules deal essentially with events following the crash, and with data on the various counter-measure procedures for preventing and for coping with crashes, injuries, etc. As with the data in the other subsystems, Emergency Services Data will also be examined in relation to all Highway Safety Program areas to which it pertains (e.g., Emergency Services, Driver Licensing, Driver Education, Vehicle Registration).

7.1 Introduction. Objectives of Module 7.

7.2 Emergency Services Data required by Highway Safety Program. An enumeration of the elements of data on emergency services (availability and operations monitoring) considered necessary to the Traffic Records System for attainment of program objectives.

7.3 Uses of emergency data. A discussion of the purposes for collecting emergency services data, considered by program area.

7.4 Sources and means of collecting. A discussion of the sources of data on availability of emergency services and on the actual emergency service operations.

7.5 Coding Conventions. Examples of coded data on emergency services (as listed in Part II of the Design Manual for State Traffic Records Systems, and other sources).

7.6 Problem-solving/discussion period. A discussion focusing on a problem or problems relating to the collecting, analyzing, and/or reporting of emergency services data.

Module 8. Traffic Law Enforcement and Adjudication Data Subsystem

As with Emergency Services data, Traffic Law Enforcement and Adjudication data deals largely with events following the crash, such as counter-measure activities and adjudication of citations. As with the data in previous modules, this data will be examined, in Module 8, in relation to all pertinent program areas.

8.1 Introduction. Objectives of Module 8.

8.2 Traffic Law Enforcement and Adjudication data required by the Highway Safety Program. An enumeration of the elements needed in the system for attainment of program objectives.

8.3 Uses of Traffic Law Enforcement and Adjudication data. A discussion of the uses to which this data may be put, by program area.

8.4 Sources and means of collecting. A discussion of the sources, i.e., the agencies, programs, situations, documents through which the data is collected.

8.5 Coding Conventions. Examples of coded data from this subsystem (as shown in Part II of the Design Manual for State Traffic Records Systems and other sources).

8.6 Specific examples of requirements for, and uses of data from the Traffic Law Enforcement and Adjudication Data Subsystem, by guest speaker from Law Enforcement Agency. Realistic examples of requirements and uses, together with a discussion of problems relating to collection and reporting of data, and input of data to the system and access to it.

This section of Module 8 is linked with the corresponding section (3.6) of Module 3. In terms of subject matter, both modules could utilize a guest speaker from the Law Enforcement Agency. Practically speaking, however, the course schedule and the speaker availability factors may not permit this. Therefore, the guest speaker should be scheduled at the convenience of the instructor and, of course, at the convenience of the cooperating agency.

8.7 Problem-solving/discussion period. A discussion focusing on a problem or problems relating to the collecting, analyzing, and/or reporting of traffic law enforcement and adjudication data.

Module 9. Educational Services Data Subsystem

Educational services data, like the data in the two preceding subsystems, deals with counter-measure activities. Specifically, it deals with the spectrum of activities all having to do with prevention of crashes, prevention of death and prevention or minimization of injuries through driver education and rehabilitation. As with the data in the other subsystems, this category of data will be examined as it relates to all the Highway Safety Program areas.

9.1 Introduction. Objectives of Module 9.

9.2 Educational Services Data required by Highway Safety Program. An enumeration of the data elements this subsystem requires for attainment of program objectives.

9.3 Uses of educational services data -- considered by program area.

9.4 Sources and means of collecting. A discussion of sources of data on educational services relevant to the program, and means of collecting the data.

9.5 Coding Conventions. Examples of coded data on educational services (as listed in Part II of the Design Manual for State Traffic Records Systems, and other sources).

9.6 Problem-solving/discussion period. A discussion focusing upon one or more problems relating to the collecting, analyzing, and/or reporting of educational services data.

Module 10. Safety Program Management Data Subsystem

The subsystem discussed in Module 10 is unique in that it deals exclusively with data extracted from the other subsystems for purposes of management review and decision making. As with the data in the other subsystems, the Program Management data will also be considered, in Module 10, in relation to each of the program areas.

10.1 Introduction. Objectives of Module 10.

10.2 Safety Program Management Data required by the Highway Safety Program. An enumeration of the data elements needed in this subsystem in order to respond adequately to the program requirements of the whole system. This will include key summary data on the following:

- Operational Area Summaries
- Crash Incidence Summary
- Crash Factors

10.3 Uses of Safety Program Management data -- discussed by program area.

10.4 Sources and means of generating For the Safety Program Management Data subsystem, an identification of the files in other subsystems from which data may be retrieved for management purposes, and the methods by which the retrieval is accomplished.

10.5 Coding Conventions. Examples of coded data from this subsystem (as shown in Part II of the Design Manual for State Traffic Records Systems).

10.6 Problem-solving/discussion period. A discussion which focuses on the analysis, summarization, and/or reporting of Safety Program Management data. This discussion should help in developing the participant's perspective of the whole traffic records system, and its unique importance to the Traffic Safety Program.

BLOCK III. TRAFFIC DATA ANALYSIS AND CONCLUSIONS

Block I of the course discusses the main concepts of an integrated Traffic Records System in terms of content, function, and organization; Block II considers the system content in greater depth by discussing the various categories of traffic data in terms of elements, their current uses, means of collecting and coding them, and problems relating to all of these. Block III attempts to integrate the content of the preceding blocks and to lend it immediate relevance by focusing on specific activities fundamental to the work of participants within the context of the Traffic Records System; it then provides a conclusion with an opportunity for questions and answers and free discussion.

Module 11. Evaluative Research in the Highway Safety Program

Module 11 discusses one of the most important activities tc which data from the Traffic Records System are put -- namely evaluative research in the Highway Safety Program. Briefly, it explains the more important concepts and principles which must be understood if valid conclusions are to be drawn from Traffic Safety data being analyzed, and thus it is fundamental to planning, implementation, and evaluation of the program.

11.1 Introduction. Objectives of Module 11.

11.2 Fundamental concepts of evaluation. A definition and explanation of the most fundamental concepts and terms used in all evaluative research, and their application to the Highway Safety Program.

11.3 Defining program objectives. A discussion of ultimate goals, and immediate and intermediate objectives in the Highway Safety Program.

11.4 Types of evaluation. A discussion of five different approaches to program evaluation which are relevant to the work of Program coordinators and analysts.

11.5 Design of analyses. A discussion of important factors to be considered in designing a project, and an explanation of the classic design for a project and four variations of the classic design which are relevant to the design of projects in the Highway Safety Program.

11.6 Interpretation of findings. An explanation of the concepts of reliability and validity, and a discussion of the sources of unreliability and invalidity which should be kept in mind by those who analyze and interpret data in relation to Highway Safety programs.

Module 12. Recapitulation and Conclusion

12.1 Recapitulation of main topics. Module 12 begins with a brief review of the main topics covered in the course. This review will serve to put the whole subject of traffic records in perspective, and it will provide the participants with another opportunity to identify areas of special concern to them or topics on which they have questions which have not been completely answered in the course of the preceding modules.

12.2 Questions and Answers. The latter part of Module 12 is devoted to answering the questions raised by the participants. When the course succeeds in stimulating the intended questions and discussion, there are more questions and answers than can be accommodated in the time allotted. When, on the other hand, the question period lags, the instructor has recourse to a list of suggested questions with which he can elicit discussion from the participants. The amount and intensity of this activity obviously depends not only on the content of the preceding course modules, but on the imagination of the instructor and the individual "chemistry" of the group of participants.

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE: A KEY TO THE HIGHWAY SAFETY PROGRAM

Schedule

	Major Topics	Time in Minutes
1.1	Introduction	05
1.2	The Highway Safety Program	50
1.3	Traffic Records in Perspective	25
1.4	Questions and Answers	10

Module Objectives

Upon completion of Module 1, the participant will be able to demonstrate:

1. A knowledge of the Highway Safety Program Subject Areas and an understanding of their relation to the purpose of the Program.

2. An appreciation of the importance of traffic records, and an Integrated Traffic Records System, to the success of the Highway Safety Program.

References

1. NHTSA. Highway Safety Program Manual. Vols. 0-18
(In particular, see Vol, 10 and Supplement 1 to Vol. 10)

2. Highway Safety Act of 1966 (23 U.S.C. 402)

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard and chalk
3. Overhead projector
4. Screen

Classroom Aids

1-1 List of the Subject Areas comprising the content of the Highway Safety Program
1-2 Chart showing relation of Program Manual Volumes to Program Subject Areas
1-3 Diagram illustrating supportive functions of traffic records system throughout Highway Safety Program
1-4 Listing of the important general uses of traffic safety data

Study Aids

1-1 General Objectives of Module 1
1-2 Purposes of the Highway Safety Program
1-3 List of Volumes, and Supplements to Volumes, of the Highway Safety Program Manual
1-4 List of Functions performed by Traffic Records Staff personnel (Traffic Records Program Analysts and Traffic Records Coordinators)

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

Topic Outline	Approach/Procedures
1.1 INTRODUCTION (05 minutes)	
A. Title of Module 1: "Traffic Records in Perspective: A Key to the Highway Safety Program"	
B. Purpose of Module 1: To enable the participant to view the topic of traffic records and the concept of integrated traffic records system in perspective through the attainment of two module objectives -- namely, to provide the participant with:	Refer to Study Aid #1-1
1. A knowledge of the content of the Highway Safety Program, and an understanding of the relation of each Program Subject Area to the overall purpose of the Program.	
2. An appreciation of the importance of traffic records, and of the concept of an integrated traffic records system, to the success of the Highway Safety Program.	
1.2 THE HIGHWAY SAFETY PROGRAM (50 minutes)	
A. Purposes of the Highway Safety Program	
1. The ultimate goal, as stated in the Highway Safety Act of 1966, is: "...to reduce traffic accidents and deaths, injuries, and property damage resulting therefrom..."	Refer to Study Aid #1-2

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE
(Continued)

Topic Outline	Approach/Procedures
2. A more specific purpose of the Federal Program, in seeking that ultimate goal, is the promotion in each State of a State Program that accords with uniform standards promulgated by DOT. These uniform standards are promulgated (again citing the Highway Safety Act of 1966): "...so as to improve driver performance...and to improve pedestrian performance..." and should include: "...provisions for an effective record system of accidents (including injuries and deaths resulting therefrom), accident investigations to determine the probable causes of accidents, injuries, and deaths, vehicle registration, operation, and inspection, highway design and maintenance (including lighting, markings, and surface treatment), traffic control, vehicle codes and laws, surveillance of traffic for detection and correction of high or potentially high accident locations, and emergency services..."	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
B. Review of Program Content	
1. Development of Program Standards. Program Standards are issued by NHTSA, reviewed by the States, the National Highway Safety Advisory Committee, and by other interested groups, and are revised and updated as needed. Program Standards remain viable through refinement based on the experience and counsel of individuals and groups throughout the nation who are actively involved in the promotion of highway traffic safety.	
2. Listing of Program Manual Volumes. The current program standards are augmented by the Highway Safety Program Manual -- issued in eighteen volumes:	Refer to Study Aid #1-3
(0) Planning and Administration	Discuss volumes as needed.
(1) Periodic Motor Vehicle Inspection Supplement 1 to Volume 1	
(2) Motor Vehicle Registration Supplement 1 to Volume 2	
(3) Motorcycle Safety Supplement 1 to Volume 3	
(4) Driver Education Supplement 1 to Volume 4	
(5) Driver Licensing Supplement 1 to Volume 5	
(6) Codes and Laws Supplement 1 to Volume 6	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

	Topic Outline	Approach/Procedures
(7)	Traffic Courts Supplement 1 to Volume 7	
(8)	Alcohol in Relation to Highway Safety	
(9)	Identification and Surveillance of Accident Locations	
(10)	Traffic Records Supplement 1 to Volume 10	
(11)	Emergency Medical Services Supplement 1 to Volume 10	
(12)	Highway Design, Construction and Maintenance	
(13)	Traffic Engineering Services	
(14)	Pedestrian Safety	
(15)	Police Traffic Services Supplement 1 to Volume 15	
(16)	Debris Hazard Control and Cleanup	
(17)	Pupil Transportation Safety	
(18)	Accident Investigation and Reporting (Interim)	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
3. Listing of Program Subject Areas. The Highway Safety Program can be thought of in terms of eight Program Subject Areas: • Program Administration and Evaluation • Traffic Laws and Regulations • Vehicle Requirements • Traffic Safety Education • Driver Licensing • Police Traffic Services • Traffic Courts and Adjudication Systems • Emergency Medical Services	Show Classroom Aid #1-1
4. Brief Discussion of Program Subject Areas.	Show Classroom Aid #1-2
a. Program Administration and Evaluation • This program area embraces all the subjects addressed in Volumes 0 and 10 and Supplement 1 to Volume 10 of the Program Manual. • Within this subject area, the Program is concerned with those topics most directly related to the developing and implementing of a comprehensive and well-	Refer to this Aid throughout discussion below to relate existing Program Manual Volumes to Program Subject Areas. Inform students which state agencies have specific responsibility for each Volume.

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
coordinated Highway Safety Program within the States, for example, the following:	
- Designating the State agency to carry out program	
- Appointing Highway Traffic Safety Advisory Committee to formulate objectives/ policies.	
- Developing multi-year plan	
- Establishing and maintaining Traffic Records System	
- Organizing manpower development and training program	
- Maintaining cognizance of pertinent legislation	
- Establishing public information system	
- Evaluation of the overall State Highway Safety Program.	
b. Traffic Laws and Regulations	
● This program area includes subject matter addressed by Volume 6 and Supplement 1 to Volume 6 of the Program Manual. (Also, Vols. 3, 8, 17 and 18.)	Show Classroom Aid #1-2

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
• The main concern is with achieving uniformity among traffic laws and regulations considered essential for safe and efficient use of highways.	
Within this subject area, the Program is concerned with such matters as the following:	
- Establishment of a Statewide, comprehensive and uniform traffic law	
- Development and adaptation of Model Traffic Ordinances for easy local adoption	
- Enactment of various specific statutory provisions	
- Establishment of alcohol and other drug-related provisions as part of code	
- Enforcement of certain Federal safety standards regarding motorcycle operation	
- Establishment of comprehensive pupil transportation safety program.	
c. Vehicle Requirements	
• This program area includes the topics addressed in Volume 1 and 2 of the Program Manual,	Show Classroom Aid #1-2

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
along with some material from Volumes 3 and 17.	
● This subject area has to do with increasing the potential of the State's registration system, ensuring that safety equipment once installed is not removed, and ensuring the safe operating condition of all registered vehicles. Of concern here are such matters as the following:	
- Maintaining a vehicle registration program that meets specified requirements	
- Specifying a number of equipment requirements for all motor vehicles registered in State	
- Maintaining a program for periodic inspection of all registered motor vehicles	
- Evaluating the vehicle requirements program (using designated highway safety agency)	
d. Traffic Safety Education	
● Covers the subject matter in Volume 4 of the Program Manual, along with some topics included in Volumes 3, 14, and 17.	Show Classroom Aid #1-2

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE
(Continued)

Topic Outline	Approach/Procedures
• The main concern in this Program area is to provide a comprehensive system of traffic safety education programs, and specifically, such matters as the following:	
- Establishment of a statewide traffic safety education program, and designating of a supervisory agency	
- Development of a number of specific subprograms, including: (1) an in-school program for students as pedestrians and riders in vehicles, (2) a beginning driver education program, (3) pre-licensing instruction program, (4) post-licensing instruction program (rehabilitation), and others.	
e. Driver Licensing	
• Covers subject matter addressed in Volume 5 of the Program Manual, and Supplement 1 to Volume 5.	Show Classroom Aid #1-2
• This Program area has to do with implementing procedures ensuring that only persons physically and mentally qualified will be licensed to operate motor vehicles -- specifically, such matters as the following:	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
- Establishing criteria for issuance of driver's first license (criteria to include specified elements)	
- Establishing system of issuance and control of licenses meeting specific requirements	
- Developing driver information data system	
- Making provision for re-examination of certain categories of drivers	
- Providing for evaluation of program.	
f. Police Traffic Services	
● Covers subject matter addressed in Volume 15 of the Program Manual, as well as certain matters included in Volumes 16 and 18.	Show Classroom Aid #1-2
● This Program area has to do with ensuring that police traffic services will be provided in such a manner as to reduce traffic crashes, deaths and injuries, and specifically, with such matters as the following:	
- Ensuring participation of all law enforcement agencies in State's program	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
- Ensuring that each law enforcement agency develops and implements specific types of policies	
- Limiting traffic direction and control to where and when safety or traffic flow is major consideration	
- Ensuring that law enforcement agencies develop crash investigation programs	
- Providing for evaluation of program.	
g. Traffic Courts and Adjudication Systems	
● Covers subject matter addressed in Volume 7 of the Program Manual and Supplement 1 to Volume 7.	Show Classroom Aid #1-2
● Has to do with the development of balanced local and statewide traffic court and adjudication systems which will in turn promote highway safety. Specifically, it deals with such matters as the following:	
- Coordination of traffic offense adjudication activities, driver licensing authority, and State judiciary	

Topic Outline	Approach/Procedures
- Adapting its traffic case management system to include specified features	
- Providing for qualified adjudication and administrative personnel	
- Establishing uniform rules for impounding revoked or suspended licenses and permitting participation in rehabilitation programs	
- Requiring personal appearance before adjudication agency by persons charged with hazardous traffic law violations	
- Ensuring adjudication agencies' financial independence of fees, fines, etc.	
h. Emergency Medical Services	
● Covers subject matter addressed by Volume 11 of the Program Manual and Supplement 1 to Volume 11.	Show Classroom Aid #1-2
● Has to do with providing for statewide emergency medical care systems that will ensure quick identification of, and response to, highway crashes, including all appropriate on-the-scene, in-transit, and in-facility treatment, as well as all	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
necessary coordination, transportation, and communication. Specifically, it is concerned with such matters as the following: - Enactment of legislation requiring ambulance services to be licensed and EMS personnel to be trained and certified - Designation of one agency as responsible for statewide EMS program - Establishment of an advisory committee for EMS - Development of statewide EMS comprehensive plan which includes certain specified features - Provision for evaluation of program and of comprehensive plan	

Topic Outline	Approach/Procedures
1.3 TRAFFIC RECORDS IN PERSPECTIVE (25 minutes)	
A. Importance of Traffic Safety Data to Overall Highway Safety Program	
1. Overall Highway Safety Program dependent, for validity of its policies and its subprograms, on accurate traffic safety data regarding traffic crashes, drivers, motor vehicles, and roadways.	Show Classroom Aid #1-3
2. Traffic Safety data needed to provide the following:	
a. A reliable indication of the magnitude and nature of highway traffic accident problem on National, State and local scales.	
b. A reliable means for identifying short-term changes and long-term trends in the magnitude and nature of traffic accidents.	
c. A valid basis for the following:	Show Classroom Aid #1-4
● Detecting high or potentially high frequency crash locations and causes	
● Detecting health, behavioral, and related factors contributing to accident causation	
● Designing accident, fatality and injury countermeasures	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE
(Continued)

Topic Outline	Approach/Procedures
• Developing means for evaluating cost-effectiveness of countermeasures	
• Planning and implementing selected enforcement and other operational programs.	
B. Fulfillment of Need for Traffic Safety Data	
1. Purpose of Traffic Records Program is to fulfill this need -- to assure that appropriate data on traffic crashes, drivers, motor vehicles, and roadways and on Safety Program functions are available to State and local planners and operators of motor vehicle transportation systems.	
2. DOT policy:	
a. Support development, within each State, of modern, efficient traffic records system that meets State and local safety needs	Refer to Highway Safety Program Manual, Vol. 10, Chapter III
b. Assure that State systems are compatible with each other, to allow for inter-State comparisons and aggregation of data at national level.	
C. People Who Operate the Traffic Records System	
1. Who they are:	
a. Persons upon whom success of program depends are those who plan, implement, and operate State Traffic Records Systems	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
b. Persons may work in any of the various State agencies. However, they have in common their functions in the Traffic Records System. Generally speaking, they may be categorized as one of the following: ● Traffic Records Program Analyst ● Traffic Records Coordinator	
c. Class participants will fulfill functions of one or the other (or possibly to an extent, both) of those categories.	
2. What they do: The functions described here relate only to the role of those persons in the Traffic Records System. Furthermore, all of the functions listed may not be performed by any one person in an actual system. The lists that follow, in some cases, therefore, would be thought of as composites.	Refer to Study Aid #1-4
a. Traffic Records Program Analyst. (Develop and implement techniques and procedures to utilize data on drivers, motor vehicles, highways, and crashes, for improvement of highway safety program.) Development functions ● Assists in design of proposed ADP systems	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
• Improves, develops new techniques to prepare statistical measures of traffic crash problem to show magnitude, changes and trends, and to identify areas for further research	
• Identifies, structures the traffic records and safety information requirements of a given agency	
• Reviews, analyzes, evaluates, revises operating techniques, procedures, methods	
• Performs detailed analysis of traffic records as required.	
Coordination functions	
• Coordinates his own and work of other analysts in a central agency to assure compatibility of his requirements and methods with those of other functional areas of interest.	
• Works with analysts in other agencies to facilitate transfer, merger, utilization of data	
• Coordinates traffic records function with other data processing activities of agency	
• Coordinates with State-level analysts about System's compatibility with overall State	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
system and about information exchange between State and local systems.	
Planning functions	
● Provides direction to agencies through assistance in (1) establishing data requirements; (2) review and evaluation of operating procedures and ADP System optimization; recommendation of improved procedures to identify safety problem within functional area, and means to relieve problem	
● Aids in determining personnel requirements of agency	
● Aids in training/orientation of agency personnel in new procedures	
● Provides assurance of timely reporting of traffic safety information to State agencies where needed	
● Assists in prepartion of budget and defense of budget to meet traffic records needs.	
b. Traffic Records Coordinator (plans, coordinates, operates, and/or directs overall traffic records system).	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
Development functions	
• Identifies the documents of the traffic records system	
• Develops overall plan for system based on defined goals and available resources, an implementation schedule, and estimate of future requirements	
• Investigates compatibility of system components, hardware, software, coding arrangements, new techniques, and recommends to maximize cost-effectiveness	
• Develops system of internal control.	
• Works with personnel of other State and local agencies to determine design of their DP systems.	
• Works with personnel of other agencies to develop methods of planning, operating, evaluating agency traffic safety programs.	
Coordination	
• Prepares and defends budget, and uses as means of coordinating activities of agencies participating in system	

MODULE 1. TRAFFIC RECORDS IN PERSPECTIVE

(Continued)

Topic Outline	Approach/Procedures
• Coordinates traffic records system with other DP operations of the State • Coordinates State's system with national system. Direction • Implements schedules and directs personnel • Monitors system operation to maintain efficiency, accuracy, and satisfaction of user needs. 1.4 QUESTIONS AND ANSWERS (10 minutes)	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

Schedule

	Major Topics	Time in Minutes
2.1	Introduction	05
2.2	The Content of Traffic Records	20
2.3	Examples of User Requirements for Highway Traffic Safety Data	40
2.4	Functions and Organization of an Integrated Traffic Records System	70
2.5	Problem-Solving/Discussion Period	45

Module Objectives

Upon completion of Module 2, the participant will be able to demonstrate:

1. A knowledge of the contents of traffic records and the user data requirements of a Traffic Records System

2. An understanding of the way in which an integrated Traffic Records System can be organized to fulfill user and program requirements.

References

1. NHTSA. Highway Safety Program Manual, Vol. 10 and Supplement 1 to Vol. 10

2. Design Manual for State Traffic Records Systems

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard and chalk
3. Overhead projector
4. Screen

Classroom Aids

2-1 Categories of data elements comprising traffic records
2-2 Example of Possible Centralized Processing System Configuration
2-3 Example of Possible Distributed Processing Configuration Integrated through Telecommunications
2-4 Integrated Traffic Records System Data Subsystem Linkage
2-5 Functions of Safety Data Analysis and Reporting Subsystem Software
2-6 General Functional Flow for Data Entry Operation

Study Aids

2-1 General Objectives of Module 2
2-2 Categories and Sub-categories of data in the Traffic Records System
2-3 General Objectives of the Integrated Traffic Records System
2-4 Integration of Traffic Records System and Data Base: Definition, Characteristics, Rationale
2-5 Extent of Automation and Centralization Required for an Integrated Traffic Records System
2-6 Data base subsystems in an Integrated Traffic Records System: (1) Categories of information and (2) Critical data elements
2-7 Functions performed by Data Subsystems
2-8 File Structure of Data and Levels of Files in Subsystems
2-9 Same as Classroom Aid #2-5
2-10 Same as Classroom Aid #2-6

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

Topic Outline	Approach/Procedures
2.1 **INTRODUCTION (05 minutes)**	
A. Title of Module 2: "Concepts of an Integrated Traffic Records System"	
B. Purpose of Module 2: To develop the participant's familiarity with the concept of an integrated traffic records system through the attainment of two module objectives--namely, to provide the participant with:	Refer participants to Study Aid #2-1
1. A knowledge of the contents of traffic records and the user data requirements of a Traffic Records System	
2. An understanding of the way in which an integrated traffic records system can be organized to fulfill user and program requirements	
2.2 **THE CONTENT OF TRAFFIC RECORDS (20 minutes)**	
A. Enumeration of data elements	Discuss briefly the elements that comprise data in an integrated traffic records system
1. Entities: Drivers, vehicles, roadways	
2. Events: Crashes resulting in fatalities, injuries, property damage; non-crash traffic violations	Show Classroom Aid #2-1
3. Crash countermeasure information; Emergency medical and other services; law enforcement and adjudication; educational services	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM
(Continued)

Topic Outline	Approach/Procedures
B. Driver data 1. Purpose: To provide performance data on licensing and other driver-related operations 2. General categories: ● Licensing data ● Driver performance history ● Financial responsibility ● Vehicle ownership C. Vehicle data 1. Purpose: To provide information for the performance of motor vehicle registration and inspection functions 2. General categories: ● Vehicle description ● Registration/ownership ● Inspection ● History D. Roadway data 1. Purposes: ● To provide the functional capability of maintaining an inventory of roadways and related facilities within the State	Refer participants to Study Aid #2-2 during remainder of this section for a listing of data categories and sub-categories.

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures

- To improve the analysis of highway system requirements and safety requirements
- To provide traffic engineers and safety analysts with means to identify high accident locations

2. General categories:

   - Roadway location identification
   - Roadway characteristics
   - Roadway history as it relates to traffic (maintenance, improvements, accidents, violations, countermeasures)

E. Crash data

1. Purpose: To provide for the collection, maintenance and retrieval of information related to crashes occurring within the State

2. General categories:

   - Identification of drivers, vehicles, passengers and pedestrians involved in traffic crashes
   - Location and environmental conditions
   - Severity of crash (fatalities, injuries, property damage)
   - Descriptions of causes (officer's report, citations issued, etc.)

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Emergency medical or other services employed as the result of accidents	
• Further information regarding crashes involving fatalities or those selected for indepth investigation	
F. Emergency Services data	
1. Purposes:	
• To provide an inventory of available emergency services	
• To maintain a record of the operations of emergency services in response to crashes	
2. General categories:	
• Identification and location of organizations licensed to provide emergency services in response to traffic crashes	
• Descriptions of equipment, personnel and services associated with organizations providing emergency rescue or medical services	
• Historical information on usage and performance of organizations providing emergency services	
G. Law Enforcement and Adjudication data	
1. Purposes:	
• To provide an inventory of traffic law enforcement operations related to highway safety, thus providing:	

Topic Outline	Approach/Procedures
- information on manpower expenditures	
- source data for evaluating effectiveness of programs	
• To provide for monitoring the adjudication of traffic law violations	
2. General categories:	
• Identification, location, jurisdiction of traffic law enforcement agencies throughout State	
• Records of employment of routine and selective traffic safety countermeasures	
• Results pertaining to adjudication of citations for traffic law violations	
H. Educational Services data	
1. Purposes:	
• To maintain an inventory of driver education or remedial training services operated within the State	
• To provide information that may be used in evaluating the effectiveness of educational programs and organizations providing driver education or remedial training	
2. General categories:	
• Identification and description of public and private organizations providing driver education or remedial training	
• Description of curriculum, services, personnel and equipment employed in educational or training programs	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
I. Safety Program Management data	
1. Purpose: To provide a valid basis for Safety Program management decisions	
2. General categories:	
• Summaries of data from the seven data categories discussed above (totals)	
• Summaries of data on crash incidence	
• Summaries of data on crash factors (relating incidence of crashes to factors which may be causative)	
2.3 **EXAMPLES OF USER REQUIREMENTS FOR HIGHWAY TRAFFIC SAFETY DATA (40 minutes)**	
A. State Office of Highway Safety	
This office is uniquely dependent on traffic safety data for performance of all its functions: .	Outline on chalkboard chief needs (as shown in Topic Outline).
1. Program development. Traffic safety data (e.g., analyses of State crash data, countermeasure effectiveness data) essential to:	Discuss briefly, and ask participants to suggest additional uses or requirements.
• Establishment of priorities	
• Formulation of valid Program objectives	
• Development of work programs	
2. Program operations/ administration. Traffic safety data and related data is essential to:	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Providing information to State, Federal, local agencies and private organizations (all categories of traffic safety data)	
- Preparation of budget, and administration of State's distribution of Federal funds (data on program requirements and expenditures)	
- Manpower development (data on training capabilities throughout State; highway safety manpower development and training requirements)	
- Legislation (information on status of all Governor's recommendations affecting highway traffic safety; status of all bills introduced)	
3. Program evaluation. All categories of traffic safety data and related data are essential to:	
- Evaluation of the program management and administration	
- Evaluation of each program subject area of the State highway safety program	
B. Traffic Law Enforcement Agencies	Outline law enforcement functions (as shown in Topic Outline) on chalkboard. Ask participants to suggest needs for traffic safety data under each function, and put these on board in appropriate places. Add needs from Topic Outline where participants fail to suggest all needs listed.
Examples of need for traffic safety data in the following law enforcement functions:	
1. Police administration. Need for monitoring of the following:	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Crashes investigated	
• Crash- related citations issued	
• Hazardous traffic law citations issued	
• Percent of latter resulting in convictions	
• Total citations	
• Total warnings issued	
• Time spent on traffic-related tasks	
2. Traffic law enforcement. Need data for selective traffic enforcement program based on:	
• Traffic volume	
• Crash experience	
• Traffic violation frequency	
• Alcohol and other drug use	
3. Evaluation of Police Traffic Services Program. Need data for comparisons in connection with the following:	
• Review of traffic law enforcement training program	
• Review of selective enforcement programs	
• Review of police reporting procedures	
• Review of crash investigations conducted	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Review of extent to which special law enforcement equipment is used and results	
C. Courts Need traffic safety data as follows:	Outline needs on chalkboard; add those suggested by participants.
1. Traffic case management system requires retrieval of driver records in all traffic violations cases. This would include:	
• Citation data	
• Crash data	
• Prior conviction/driver license status data	
2. Evaluation of traffic courts and adjudication systems. Evaluation requires statistical analyses emphasizing the following kinds of data:	
• Types and frequency of offenses	
• Case disposition, including:	
- Percentage of convictions	
- Delays in court appearance	
- Nolle prosequi pleas	
- Reduction in charges	
- Rehabilitation referrals	
- Sentences imposed	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
D. Driver's Licensing Agencies 1. Driver Information Data System. Driver's Licensing Agencies must maintain a system that is capable of the following: • Identifying problem drivers (including drivers with mental or physical problems such as alcohol or drug use) through review of crash and conviction experience • Retrieving driver history records for use in judicial or adjudicatory proceedings, or for pre-licensing or license renewal purposes • Providing all recorded information to driver upon request 2. Use of information system • Agencies provide driver data to courts, law enforcement agencies, government agencies and private industry, insurance companies, traffic safety organizations, and the public • Agencies use driver data as a basis for (1) determining when re-examination should take place, (2) identifying law enforcement "holds" among applicants and (3) helping administer financial responsibility laws 3. Evaluation of driver licensing program. Agencies need data for all studies connected with evaluation of program: • Measuring effectiveness of driver examination and reexamination programs	Outline agency functions and chief needs on chalkboard. Add suggestions from participants.

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Review of effectiveness of driver information data system	
E. Motor Vehicle Registration Agencies	Outline agency functions and needs on chalkboard. Add suggestions from participants.
1. Motor vehicle registration program. Agencies use data for:	
• Producing new or corrected registration certificates	
• Producing annual vehicle registration renewal certificates	
• Maintaining data systems with safety history of registered vehicles	
2. Equipment requirements program. Agencies use data to enforce equipment requirements.	
3. Motor vehicle inspection program. Agencies need data to maintain inspection records systems, and for periodical publication of records summaries.	
4. Evaluation of vehicle requirements program. Agencies need data for comparative measurements in all aspects of program.	
5. Other needs. Agencies need data in providing regular services to the law enforcement agencies, and in providing information to Federal, State, local agencies, and private organization and citizens.	
F. Highway Departments	Outline agency functions and needs on chalkboard. Add suggestions from participants.
1. Identification and surveillance of locations with high crash or violations incidence. Traffic records data is used by highway departments for the following:	

Topic Outline	Approach/Procedures
• Identifying high crash and violation frequency locations	
• Determining crash causes relating to highway environment	
• Recommendation of corrective treatment	
• Establishment of improvement priorities	
2. Roadway design. Highway departments use traffic safety data in developing standards for the following:	
• Roadway design	
• Roadway construction	
• Traffic control	
3. Maintenance planning. Traffic records data is used in the following:	
• Establishing roadway and traffic control device inventories	
• Establishing inspection schedules	
• Establishing maintenance schedules	
4. Department planning and budgeting. Traffic records data can provide projections upon which planning and budgeting can be based.	
G. Medical Services Agencies State and local agencies need traffic safety data to respond to various program requirements:	Outline needs on chalkboard. Add suggestions from participants.
1. Inventory of available emergency medical services resources	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Definition of local areas of EMS responsibility	
3. Designation of local EMS units according to areas of responsibility	
4. Analysis of the services provided to crash victims	
5. Evaluation of EMS program	
H. Traffic Safety Education Agencies	
The State Department of Education, or whichever agency or agencies are involved, need - for the development and evaluation of a statewide traffic safety education program - such data as the following:	
1. Complete enrollment data (public school, commercial schools, DMV and court-sponsored schools)	
2. Curriculum data	
I. NHTSA and FHWA	
Cognizant Federal agencies need the following data:	
1. Accurate summaries of all categories of traffic safety data (for planning, administration, and evaluation)	
2. Detailed data for special studies to identify specific safety problems and possible solutions	
J. Private Agencies	
Various private agencies and organization use	

Topic Outline	Approach/Procedures
traffic records data for various purposes. Examples are:	
1. National Safety Council. This non-governmental organization uses traffic records extensively in its public information and education programs, both for determining program priorities, and for deriving program consent.	
2. Insurance companies. Insurance companies use all basic categories of traffic safety data for the following: • Determining insurability • Determining initial premiums and premium changes	
2.4 FUNCTIONS AND ORGANIZATION OF AN INTEGRATED TRAFFIC RECORDS SYSTEM (70 minutes)	
A. Purpose and General Objectives of an Integrated Traffic Records System	Refer participants to Study Aid #2-3 for a listing of general objectives.
Purpose: To fulfill requirements of user agencies and Programs (as discussed earlier in module)	
General Objectives:	
1. To assure that adequate, appropriate and accurate data are available for the planning and implementing of programs to improve the safety of the motor vehicle transportation system within the State and its local jurisdictions.	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. To provide for the collection, storage, retrieval, analysis and dissemination to users of data pertaining to each element of the controllable traffic safety environment (e.g., crashes, drivers, motor vehicles, roadways, law enforcement and emergency services).	
3. To assure compatibility without duplication among the data systems of agencies at State and local levels that are responsible for various functional highway safety program areas (e.g., driver licensing, motor vehicle registration and inspection, roadway construction and maintenance, traffic law adjudication, driver education, emergency services, etc.).	
4. To assure that appropriate traffic safety data are available to provide:	
• Basis for statistical analyses to assist State and local authorities in the planning, priority determination and implementation of Traffic Safety Programs	
• Reliable indicators of the magnitude and nature of highway traffic safety problems on National, State and local levels	
• Reliable means for identifying short-term changes and long-term trends in the magnitude and nature of highway traffic safety problems	
• Valid bases for:	
- Detecting high or potentially high accident locations and causes	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Determining health, behavorial and other driver performance factors contributing to the causes of accidents	Discuss special importance of such factors.
- Designing crash, fatality and injury countermeasures	
- Developing means for evaluating the cost effectiveness of crash, fatality and injury countermeasures	
- Planning and implementing selective law enforcement and other operational traffic safety programs	
5. Summary: To provide for the collection, storage, update and retrieval of all of the data relating to the Traffic Safety environment in forms which match the needs of the various agencies' programs and functions which control and service that environment	
6. Conclusion: To meet all of these objectives, some degree of system and data base integration will be required of the Traffic Records System.	
B. Integration of the Traffic Records System and Data Base	For further discussion, see Reference No. 2 for Module 2: Vol. I, Chapter 3.
1. Definition of an integrated Records System and Data Base: Information processing which is organized, directed and carried out according to a systems approach which gives recognition to and provides for the inter-related aspects of the various functions and data elements.	Refer participants to Study Aid #2-4 for definition and characteristics of integrated system, and reasons for integration. Discuss.

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Reasons for integration of the Traffic Records System and Data Base:	
• Many agencies, organizations and functions that utilize data relating to the Traffic Safety environment	
• Many aspects of the Traffic Safety environment about which information must be furnished to fulfill requirements	
• General objectives of the Traffic Records System:	
- Compatibility without duplication	
- Adequate and accurate data to perform statistical analyses, provide reliable indicators, etc.	
3. Characteristics of an Integrated Traffic Records System and Data Base	
• Provides for the collection, storage, retrieval, analysis and dissemination to users of data pertaining to all elements of the Traffic Safety environment	
• Provides for the information needs of the various agencies, organizations and functions who analyze, control and service the Traffic Safety environment	
• Eliminates the need for the maintenance of separate and/or duplicate information files by agencies responsible for different highway safety programs	

Topic Outline	Approach/Procedures
• Facilitates the correlative analysis of Traffic Safety factors, thus providing the capability for Traffic Safety Program management review and decision-making	
C. Extent of Automation and Centralization Required for an Integrated Traffic Records System	For further discussion, see Reference No. 2 for Module 2: Vol. I, Chapter 3, Parts 3.4-3.5, and Chapters 6 and 7.
1. Organization of processing system	
• Coordination of functions In an integrated traffic records system, data collection and entry, data base storage, and data retrieval and dissemination must all be centrally coordinated, although they need not actually be centralized.	
• System configurations Two models are identifiable as basic approaches to system configuration:	
- centralized data processing configuration System is operated by a single State agency, such as: (1) State data processing center, (2) State Office of Highway Safety, (3) Division of Motor Vehicles, and (4) Department of Transportation	Show Classroom Aid #2-2

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- distributed data processing configuration	Show Classroom Aid #2-3
Functions associated with the various subsystems are performed by two or more data processing systems, operated by separate user agencies	
2. Entry of source data	
• If data base storage and retrieval are automated, entry of source data should also be automated, in order to increase data availability in data base, minimize possibilities of human error, cut down on manpower costs, and so on.	
• Factors which influence the type(s) of automation to be employed for entry of source data include:	Ask participants to suggest other factors.
- Currently installed equipment	
- Volumes of data	
- Costs (equipment, personnel, training, materials, space, etc.)	
- Present operations of agencies and organizations who use traffic safety data	
- Types of input acceptable to the computer system on which the data base is maintained	
- Time constraints on data entry	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
3. Interconnection of system by communications	
• Factors influencing the need for communications networks include:	Ask participants to suggest other factors.
- Degree of centralization of agencies and organization using information	
- Time constraints on data entry and dissemination	
- Cost vs. need	
4. Discussion:	Ask participants how they accomplish traffic record-keeping functions in their individual states. If all participants are from one state, ask them how they view the record-keeping function from the vantage points of their particular agencies. Try to guide discussion toward conclusions in outline.
• System of organization (centralized vs. distributed)	
• Extent of automation	
• Conclusions	
- Need for automation determined by volumes and varieties of information as well as by variety of needs	
- Need for centralization dictated by degree to which system must and can respond to user's needs	At close of discussion, refer participants to Study Aid #2-5 for outline.
D. Data Base Subsystems in an Integrated Traffic Records System	For more detailed information, see Reference No. 2 for Module 2: Vol. I, Chapter 4.
1. Data categories in the recommended file structure of an integrated traffic records system are as follows:	
• Crash data	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Driver data • Vehicle data • Roadway data • Traffic law enforcement and adjudication data • Emergency services data • Educational services data • Safety program management data 2. Major elements in the content of each subsystem • Crash Data Subsystem - Identification of drivers, vehicles, passengers and pedestrians involved in crash - Location and environmental conditions - Severity (outcome) - Crash description and contributing factors - Emergency services employed - Additional data pertaining to crashes resulting in fatalities or those selected for special analysis	**The purpose here is to give a very brief review of the subsystem elements. Explain that each subsystem is treated in detail in subsequent modules.** **Refer participants to Study Aid #2-6.**

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Driver Data Subsystem	
– Unique identification of all drivers	
– Initial licensing and license status data	
– Driver's history	
– Legal and financial data	
• Vehicle Data Subsystem	
– Identification of all vehicles	
– Vehicle history and inspection data	
– Stolen vehicles and lost or stolen plates	
– Legal and financial data	
• Roadway Data Subsystem	
– Identification of roadway elements	
– Physical and operational characteristics	
– Condition, violation and accident history	
• Law Enforcement and Adjudication Data Subsystem	
– Identification of law enforcement agencies, types and jurisdictions	
– Employment of routine and selective traffic violation countermeasures	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Adjudication of citations for traffic law violations	
● Emergency Services Data Subsystem	
- Identification of organizations and locations	
- Equipment, personnel and services provided by organizations	
- Data pertaining to operations	
● Education Services Data Subsystem	
- Identification of organization providing primary or remedial driver training	
- Curriculum, personnel and equipment of public and private organizations providing primary or remedial driver training	
● Safety Program Management Data Subsystem	
- Summary statistics and other key information relating to State operational activity levels	
- Summary statistics of accident incidence and incidence in relation to key factors in highway environment	
- Historical summary data	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORD SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• All data subsystems discussed above	
- Linkage data to other elements in the Traffic Safety Data Subsystem	Show Classroom Aid #2-4
- Software for the performance of operational processing functions	
3. Data Base File Structure and Relationships	
Inherent in the recommended data file structure are two kinds of groupings:	
• Grouping I: Grouping of data for performance of specific State administrative, operational, and management decision making. Groupings are accomplished within the various data subsystems.	Refer participants to Study Aid #2-7
• Grouping II: Groupings of data within the functional files of the subsystems on three levels, based on the use to which data is put and frequency of use.	Refer participants to Study Aid #2-8
- (1) Level 1: Key data elements in the various subsystems that are of primary interest to State authorities in accidental research studies and monitoring operational activities. These are also primary search keys for access to data.	
- (2) Level 2: Data elements that would be likely to be subject to retrieval request for a particular operational or administrative function (e.g., automated printing of vehicle registration renewal application). Basic	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
descriptive information pertaining to a particular driver, vehicle, crash event, etc.	
- (3) Level 3: Data elements that would be retrieved for highly detailed studies or statistical analysis.	
E. Functions of a Traffic Records Processing System	For more detailed information, see Reference No. 2 for Module 2: Vol. I, Chapter 5.
A discussion of the data processing operations needed for an integrated Traffic Records System	
1. Data Base Management	Show Classroom Aid #2-5
● Generation of system data records	
● Verification of inter-file linkage trail	
● Modification of data in existing records	
● Access control	
● Data retrieval	
2. Data Analysis	
● Data screening and tabulation	
● Performance of simple data manipulation computations	
● Performance of statistical data analysis computations	
3. Report Generation	
● Organization of data for presentation	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Generation of alphanumeric characters for data descriptions and spacing and line feed characters for output presentation format	
• Assembling of output tables for access by output or communications programs	
4. Program Generation	
• Compilation of software for processing special requests	
5. Data Entry (performed by data base management software)	Show Classroom Aid #2-6
• Nature of operations performed is influenced by the type of data entered	All material from here to the end of 2.4E is for the instructor's information and need not be used for the class, unless time and interest make its use important.
– User input processing determines this and sets the appropriate flags for data entry software	
• New data always involves record generation and trail verification functions	
• Frequently involves modification of existing records	
• Generation of records includes the establishment of new data in the various files of the particular functional area data subsystem	
– Also includes the establishment of the inter-file linkage data in the files of all appropriate functional area data subsystems	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Linkage verification function ensures that all data pertaining to persons, vehicles, environment and events relating to an accident may be correlated at a later date - Verifies that the required linkage data elements are contained in the Basic Case Data File record - Modifies the data records in other data subsystem files to include linkage data elements to the files of the Crash Data Subsystem • May also require updating of the data records in the Safety Program Management Data Subsystem files - Most situations involve incrementing the appropriate summary data values by one 6. Data Base Maintenance • Includes three primary operations: - Verification of data base continuity - Direct modification of system data - Purging of data files • Verification of data base continuity - Accomplishes two checks on the contents of the common data base --Checks the completeness of linkage data between system files	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
--Determines completeness and accuracy of data in the system files	
- Conducted during non-operational periods, and periodically as needed	
• Direct modification of system data	
- Correction of previous data entry errors	
- Resetting of certain data elements to a predetermined or zero value as part of an update of the system data values	
• Purging of data files	
- Eliminates data from the files that is outdated or is no longer to be carried in the active files	
- Conducted on a periodic basis to maintain the data base at a manageable level or within the constraints of the available storage facilities	
7. Data Retrieval (from users' point of view, represents the most important function provided by system data base management software)	
• Responds to the following types of user requests:	
- Data description inquiries (defines data subsystem file, records and particular data elements to be retrieved)	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Data inquiries defining subject areas (particular data elements are unknown to the user)	
- Task specifications defining the nature of the analysis or comparison to be performed but not the specific data elements to be treated in the analysis	
• Must be capable of performing a range of comparison checks on the stored data element values as part of the file search process	
8. Link Verification Function (two approaches for implementation)	
• Include a file access address with each linkage data element	
- Requires duplicate storage of addresses in several data records	
- Provides the most direct means of access to associated data records	
• Maintain a file access table	
- Less direct access to desired data records	
- Significantly less storage requirements	
• Decision to use either must be based on a trade-off between file data access times and cost of storage to maintain linkage address data	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
● Software must be capable of maintaining up-to-date address data on a continual basis	
● A significant portion of the data will not be fixed length formats	
9. Data Analysis Software (performs the data manipulations and computations necessary to satisfy the varied user information requirements and requests)	
● Screens and tabulates data assembled by the data retrieval operations in accordance with the classification and data value constraints defined by the user requirements and requests	
● Performs simple data manipulation computations defined by user requirements and requests and tabulation of the resulting data	
● Performs statistical data analysis computations or other analytical computations required by user requests and tabulation of the resulting data	
● Functions service various types of user requests, including:	
- Data categorization and summarization	
--Screen and sort data into various categories	
--Stores summary data for use in generation of output reports	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Computation of estimates	
- Statistical analysis and correlation assessment	
● Common Data Analysis Libary to include the following functions:	
- Data screening	
- Data manipulation, description and tabulation	
- Statistical analyses	
10. Report Generation Software	
● Provides three functions:	
- Ordering of data for presentation in various tabular and graphical formats	
- Generation of signals necessary to present information in accordance with required report formats	
- Formation of output report message tables for transmission to remote user devices	
● Implemented as a set of application packages which can be called upon as required to satisfy users' requirements or requests	
- Specify the desired media and format for presentation of output	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
F. System Support Functions	For more detailed information, see Reference No. 2 for Module 2: Vol. I, Chapter 8.
1. Data Collection and Conversion	
• Data Recording Techniques	
- General considerations	Use only through third level items (preceded by -). Do not go into detail in class discussions unless prompted by questions.
-- Data elements on entry forms must be easily understood and of a type familiar to a wide range of respondents	
-- Provision must be made for entering narrative data relating to respondents' experiences, attitudes or opinions formulated as the result of preplanned interviews	
-- The selection of applicable data recording media must anticipate the requirements of data conversion, entry, storage, manipulation, formatting and retrieval and the inherent need for the application of automated data processing techniques	
- Handwritten entries (require respondents to answer questions by writing appropriate information on provided forms	
-- Allows the widest flexibility	
-- Sometimes results in data in forms inconvenient for data processing	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Subject to misinterpretation because of inconsistency in the manner in which people express themselves	
-- Generally take longer to prepare and are highly susceptible to the vagaries of handwriting	
-- Appropriate for the collection of miscellaneous data of a subjective nature	
-- Inappropriate for the direct processing of basic data	
-- Will require conversion to a directly processable medium	
- Hand-printed numeric and selected alphabetic symbols	
-- Amenable to OCR data entry procedures	
- Machine printed entries	
-- Easily readable by present OCR systems	
-- Usually requires conversion (i.e., via typewriter) of handwritten entries	
- Mark sensing	
-- Well suited to cases in which multiple-choice or "yes-no" type responses are adequate	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Uses forms that are easy to complete and can be employed as direct data entry on optical reader-processing systems	
-- Range of responses is limited by number of choices that can be practically included	
-- Potential for errors caused by stray markings, erasures, multiple markings, etc.	
- Punched cards	
-- Susceptible to error due to poor handwriting or mistyping	
-- Therefore usually involves a verification step	
-- Allows greater range of input than mark-sensing	
-- Requires additional steps to convert data	
-- May also be used as a processing medium by tabulating equipment	
- Key to tape/disk	
-- Similar to punched cards	
-- Data is converted to automated form	
-- More flexibility than cards since format is less restricted	

MODULE 2. CONCEPTS OF AN INTEGRATED TRAFFIC RECORDS SYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Greater editing capabilities	
-- Special equipment is required	
- Direct computer input	
-- Eliminates steps embodied in the other data entry methods	
-- Data can be checked upon input and any errors or inconsistencies resolved immediately with the assistance of the respondent	
-- Much more costly than other data entry methods	
-- Requires the existence of a traffic load which would justify the costs of a time-sharing or remote access information system	
• Other Data Collection and Conversion Considerations	
- Optical reader options	
-- Possible to mix various data entry approaches on a single document adding flexibility	
- Remote site data entry	
-- OCR devices at police facilities	
-- Other data entry techniques employed where needed on a remote basis	

	Topic Outline	Approach/Procedures
	2. Data Output and Dissemination ● Computer Printouts - Generation of reports on a regular, periodic basis - Magnitudes of data more effectively produced by computer printout than on the user's terminal ● Plotters ● Microfilm enlarger - printers ● Computer output microfilm ● Graphical displays ● Facsimile transmitters, receivers or transceivers ● Audio response units	
2.5	PROBLEM-SOLVING AND DISCUSSION PERIOD (45 minutes)	Administer Class Problem No. 1. and discuss.

MODULE 3. CRASH DATA SUBSYSTEM

Schedule

	Major Topics	Time in minutes
3.1	Introduction	05
3.2	Central Importance of Crash Data to System	10
3.3	Crash Data Required by Highway Safety Program	20
3.4	Uses of Crash Data	30
3.5	Sources and Means of Collecting Crash Data	30
3.6	Coding Conventions	30
3.7	Illustrations of Crash Data Requirements and Uses (Guest Speaker from Law Enforcement Agency)	40
3.8	Problem-Solving/Discussion Period	15
	TOTAL	180

Module Objectives

Upon completion of Module 3, the participant will be able to demonstrate:

1. An understanding of the central importance of Crash Data to a Traffic Records System, including a knowledge of the data elements in the Crash Data Subsystem, and a knowledge of its uses.

2. A knowledge of the sources and means of collecting data relating to the pre-crash, crash, and post-crash phases of traffic crashes.

3. An acquaintance with standard coding conventions recommended for Crash Data.

4. An appreciation of the ways in which the collection, coding, and reporting of Crash Data impact upon his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Vol. 10 and Supplement 1 to Vol. 10. (Virtually all 18 Volumes of the Manual contain information pertinent in some way to the Crash Data Subsystem, since crash data is pivotal to the entire System).

References (Cont'd)

2. *Design Manual for State Traffic Records Systems*, Vol. 1 and Vol. II, Section 4.

3. *TAD Bulletin No. 1, Vehicle Damage Scale*, National Safety Council.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

3-1 City Map showing high frequency crash and citation locations
3-2 Hypothetical report produced by Traffic Records System showing crash location frequency by municipality

Study Aids

3-1 General Objectives of Module 3
3-2 Critical data elements required for the Crash Data Subsystem
3-3 Hypothetical Traffic Records System Report Summarizing Fatalities and Injuries by Reported Driver and Pedestrian BAC and Time of Day
3-4 Hypothetical TRS Report Summarizing Crash Statistics by a Particular Motor Vehicle Standard
3-5 Hypothetical TRS Report Comparing Vehicle Defects Reported at Inspection with those Reported at Crashes
3-6 Hypothetical TRS Report showing Driver Crash Involvement by Age, Driver Education, and Light Conditions
3-7 Hypothetical TRS Report Relating Licensed Drivers in Three Age Groups to Crash Involvement
3-8 Hypothetical TRS Report showing Citations, Convictions as Cited, and Citation Change Statistics for Various Traffic Violations
3-9 Standard Police Traffic Collision Report (from Highway Safety Program Manual, Vol. 10)
3-10 Sample Collision Diagram

MODULE 3. CRASH DATA SUBSYSTEM

Topic Outline	Approach/Procedures
3.1 INTRODUCTION (05 minutes)	
A. Title of Module 3: "Crash Data Subsystem"	
B. Purpose of Module 3:	Refer to Study Aid #3-1
To develop the participant's understanding of crash data as it relates to the traffic records system; specifically, to provide the participant with the following:	
1. An understanding of the central importance of Crash Data to a Traffic Records System, including a knowledge of the data elements in the Crash Data Subsystem, and a knowledge of its uses.	
2. A knowledge of the sources and means of collecting data relating to the pre-crash, crash, and post-crash phases of traffic crashes.	
3. An acquaintance with standard coding conventions recommended for Crash Data.	
4. An appreciation of the ways in which the collection, coding, and reporting of Crash Data impact upon his own functions in the Traffic Records System.	
3.2 CENTRAL IMPORTANCE OF CRASH DATA TO SYSTEM (10 minutes)	

Topic Outline	Approach/Procedures
A. Content related to other parts of system	
As noted in Module 2, Crash Data Subsystem contains many of the basic elements of all traffic records data, including the following:	
1. Driver data	
• Name	
• Driver's license number	
• Restrictions (for out-of-state drivers only)	
2. Vehicle data	
• Make, year (for out-of-state cars)	
• License plate number	
• Vehicle identification number	
3. Roadway data	
• Location of crash	
• Condition of roadway	
• Damage to guard rails, signs, etc.	
B. Chief purposes of the traffic records system relate directly to crashes and crash information	
• To identify short-term changes and long-term trends in the magnitude and nature of crashes	
• To detect high-frequency crash locations and causes using appropriate data	

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• To design countermeasures for crashes based on results of data analysis	
In accomplishing these purposes, the system must collect, analyze, and communicate crash data to users, in various forms.	Show Classroom Aids #3-1 and #3-2 as typical examples of data use
3.3 **DATA REQUIRED BY SAFETY PROGRAM (20 minutes)**	
A. Categories of crash data required: • Identification of crash • Driver(s)/pedestrian(s) • Vehicle(s) • Severity • Victims • Environmental conditions • Emergency response	Refer participants to Study Aid #3-2. Enumerate categories; note that the uses and the sources of these data will be discussed in this module.
B. Data elements that should be collected to meet Program requirements, by data category:	
1. Identification of crash • Unit of government (state, county, city, parish, township, etc.) • Crash identification number • Driver identification	Enumerate data elements in categories. Discuss, where questions arise among participants. Draw attention to those elements that have

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Vehicle identification and ownership	particular significance for your State's system.
• Roadway location identification	
• Time of crash (date, day of week, hour of day)	
2. Driver(s)/Pedestrian(s)	
• Condition(s) (asleep, drinking, illness, etc.)	
• Alcohol and drugs involvement (BAC when taken)	
• Traffic law violation(s)	
• Driver precrash actions	
3. Vehicle(s)	
• Defects	
• Speed	
• Maneuver (leading to actual collision dynamics)	
• Point of impact	
• Damage severity	
• Mileage or odometer reading	
• First harmful event (classification and location)	
4. Accident severity	
• Property damage	

MODULE 3. CRASH DATA SUBSYSTEM
(Continued)

Topic Outline	Approach/Procedures
• Injury	
• Fatal	
5. Victims	
• Injury type	
• Age	
• Sex	
• Seating position/pedestrian	
• Use of restraints	
• Blood alcohol concentration (drivers in fatal crashes)	
• Ejection	
• Extrication time	
6. Environmental conditions	
• Light	
• Weather	
• Surface conditions	
• Maximum safe speed	
• Roadway defects	
• Condition of traffic control devices	
• Physical design features, including roadside safety hazards (e.g., dangerous abutments, canals; improperly built or	

Topic Outline	Approach/Procedures
maintained appurtenances such as solid utility poles rather than breakaway, failure to install energy absorbing devices, failure to bury guard rail ends, etc.)	
7. Emergency response	
- Emergency services, type called - Time traffic restored - Time of initial notification - Time ambulance called - Time ambulance arrived - Time ambulance left scene - Time ambulance arrived at hospital - Extrication	
(All other EMS data collected is held in Emergency Services Data Subsystem)	
3.4 USES OF CRASH DATA BY SAFETY PROGRAM AREA (30 minutes)	
A. Planning, Administration, Evaluation	
- Basis for analytical studies of crash problems and directions to take to solve them	

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Statewide procedures for crash data collection must be coordinated	
B. Traffic Laws and Regulations • Evaluation of laws and regulations to determine effectiveness by: --Reduction in crashes --Serving data needs of Traffic Safety officials • To determine progress in implementing the program	Refer to Study Aid #3-3; discuss hypothetical report as example of possible uses of crash data in determining effectiveness of legislation relating to alcohol/drug-influenced drivers.
C. Vehicle Requirements • Ensure continuing effectiveness of safety equipment • Ensure reliability and effectiveness of motor vehicle inspection • Studies of safety history related to crash experience • Evaluating effectiveness of vehicle design and vehicle safety equipment	Refer to Study Aids #3-4 and #3-5; discuss possible uses in relation to vehicle requirements program.
D. Traffic Safety Education • Aids in directing emphasis of state and local programs	Refer to Study Aid #3-6; discuss possible uses.
E. Driver Licensing • Determine driver reexamination conditions on the basis of crash experience and related alcohol or other drug history	Refer to Study Aid #3-7; discuss possible uses.

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Measure effectiveness of examination and reexamination programs in improving driver performance	
• Fulfill requirements of driver history records	
• Identify problem drivers	
F. Police Traffic Services	Refer to Study Aid #3-5; discuss uses for evaluation
• Aids in and a requirement of crash investigation	
• Result of multi-disciplinary crash investigation team efforts	
• Evaluation of Police Traffic Services	
• Affects selective enforcement	
G. Traffic Courts and Adjudication Systems	
• Required for pre-sentence investigation report	
• Required for evaluation of recidivism rates	
H. Emergency Medical Services	Refer to Reference No. 1 for Module 3: Vol. 10, Appendix G. Ask participants to note the data available -- especially under (c) Post-crash phase -- relating to EMS.
• Required for planning the EMS, defining needs and total EMS capability	

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
3.5 SOURCES AND MEANS OF COLLECTING CRASH DATA (30 minutes)	
A. Police Traffic Collision Reports • Verbal report • Collision diagram	Refer to Study Aids #3-9 and #3-10 and discuss. Provide other examples of your State's reports for comparison, if possible.
B. Emergency Medical Services personnel	
C. Photographs of crash scene	
D. Location mileage measurements to the hundredth of a mile	
E. Other Reports • Reports to police by involved drivers • Insurance company reports of crashes • Reports resulting from police follow-up investigations	Refer to basic data enumerated under 3.2, A. (above): indicate crash report (used in your State) as a source for most of this; note items of data not included in this report (if any), and indicate other sources for such data.
F. State Crash Investigation Teams • Usually make detailed report • Special emphasis on key aspects of the crash problem -- examples: fatalities, alcohol, drugs, vehicle condition	Show examples of such reports if used in your State

Topic Outline	Approach/Procedures
G. Special Considerations for Crash Data Collection	
1. On-the-scene reports must be prepared quickly and often under adverse circumstances; therefore: • Data elements must be clear and easily understood • They should be of a type familiar to the wide range of respondents expected • Forms should require short time for completion • Forms should have space for narrative reports	Compare report forms available in your State for these characteristics.
2. Use of personal interviews to obtain more depth and completeness of TR data -- allows use of more sophisticated response forms	
3. Various systems already devised to aid in reporting crash data; these should be explored where such systems are not already in use in your State or jurisdiction.	Refer to Vehicle Damage Scale as example, and discuss.
3.6 CODING CONVENTIONS (30 minutes)	
A. Recommended Structure for Data in Crash Data Subsystem includes four files: • Crash (Accident) Case Directory • Basic Case Data	Refer to Reference No. 3 for Module 3 (Design Manual): Vol. II, Section 4. Indicate the thorough enumeration there of crash data elements, along with suggested codings for them.

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Fatalities Analysis Supplement	
• In-depth Investigation Supplement	
B. Discussion of Each File, with Examples of Coded Elements	Refer participants to Study Aid #3-12, and discuss examples of codings of varying complexity.
1. Crash (Accident) Case Directory	
Examples of Coded Elements:	Emphasize usefulness of Design Manual in setting up or improving Traffic Records System.
• Political subdivision(s) of occurrence	
• Contributing factors indicator	
• Driver Age Groups	Use this discussion of files to establish the general nature of all of the safety files. In later modules, only the overall file structures need be addressed.
• Vehicle types	
• Accident severity index	
• Investigation indicators	
2. Basic Case Data	
Examples of Coded Elements:	
• Crash Date	
• Crash, First Harmful Event, Type	
• Crash, First Harmful Event, Location	
• Crash Location, Roadway Location Identifier	
• Driver Vehicle Traffic Unit Number __, Causative Factors	

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Injured Occupant, Injury Classification	Point out that this code reflects expansion of injury codes in ANSI D161.1.
• Injured Occupant, Seat Position	
• Injured Occupant, Safety Equipment Used	
• Pedestrian Injured, Location	
3. Fatalities Analysis Supplement	
Examples of Coded Elements:	
• Special Study Area	
• Manner of Collision	
• Pavement Markings	
• Angle at Impact	
• Direction of Force	
• Impact Point	
• Tires	
• Driver Precrash Actions	
4. In-depth Investigation Supplement	Unnecessary to refer to example here.
Examples of Coded Elements:	Point out that NHTSA has not specified elements for Sate-level, In-depth Investigation Supplement File.
• Crash Case Number	
• In-depth Investigation Case Number	

Topic Outline	Approach/Procedures
• Fatality Case Number	
• Date of Investigation	
• Investigated by	
3.7 ILLUSTRATIONS OF CRASH DATA REQUIREMENTS AND USES -- GUEST SPEAKER FROM LAW ENFORCEMENT AGENCY (40 minutes)	
Suggested topics:	
• Types of forms used to collect crash data -- examples	
• Routing of crash data within state once recorded (to various highway safety-related agencies, governmental agencies, etc.)	Draw chart on board or prepare transparency for overhead projector, illustrating the routing of crash data within the State.
• Types of reports made using crash data requested from within the state and from without (NSC, NHTSA, etc.) and filed by Law Enforcement Agencies (examples if possible)	
• How police services and EMS have been changed or modified by use of crash data	
• Other uses of crash data	
• How crash is entered into the traffic records system of the State: coding, types of input mechanisms, where data may be entered, etc.	

Topic Outline	Approach/Procedures

- Unsolved problems relating to collection, routing, reporting, input to TRS, and uses of crash data

3.8 **PROBLEM-SOLVING AND DISCUSSION PERIOD (15 minutes)**

Suggested topics:

- Discuss problems mentioned by guest speaker arising from operation or requirements of TRS within the state;
  ask participants how they would solve the problems.
- Discuss problems relating to collection of crash data - particularly with respect to police traffic collision reports:
  - design of forms
  - ease of use of forms
  - reliability of data
  - quantity of data required
  - other problems

  Ask for suggested solutions.
- Ask questions:
  - Is crash data the most important type of TR data? Why or why not?
  - How accurate must crash data be, considering its uses?

MODULE 3. CRASH DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Will need for crash data increase or decrease in the future? Why?	
- Should the same effort be exerted in collecting data on all types of crashes? Why or why not?	
- Does existing standard collision report form provide all desired data?	

MODULE 4. DRIVER DATA SUBSYSTEM

Schedule

	Major Topics	Time in minutes
4.1	Introduction	05
4.2	Driver Data Required by Highway Safety Program	15
4.3	Uses of Driver Data by Safety Program Area	25
4.4	Sources and Means of Collecting Driver Data	20
4.5	Coding Conventions	15
4.6	Illustrations of Driver Data Requirements and Uses (Guest Speaker from Drivers Licensing Agency)	30
4.7	Problem-Solving/Discussion Period	10

Module Objectives

Upon completion of Module 4, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Driver Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Driver Data and means of collecting it.

3. An acquaintance with standard coding conventions recommended for Driver Data.

4. An appreciation of the ways in which the collection, coding, and reporting of Driver Data impact on his own functions in the Traffic Records System.

References

1. NHTSA Highway Safety Program Manual. Vol. 10 and Supplement 1 to Vol. 10. Also, Vols. 3, 5, 8, and 17.

2. Design Manual for State Traffic Records Systems, Vol. I and Vol. II, Section 1.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

4-1 Hypothetical Traffic Records System report relating driver education to crash involvement

Study Aids

4-1 General Objectives of Module 4
4-2 Critical Data Elements Required for the Driver Data Subsystem

MODULE 4. DRIVER DATA SUBSYSTEM

Topic Outline	Approach/Procedures
4.1 **INTRODUCTION (05 minutes)**	
A. Title of Module 4:	
"Driver Data Subsytem"	
B. Purpose of Module 4:	
To develop the participant's familiarity with the Driver Data Subsystem; specifically to provide the participant with the following:	Refer to Study Aid #4-1
1. A knowledge of the data elements in the Driver Data Subsystem and a knowledge of its uses.	
2. A knowledge of the sources of Driver Data and means of collecting it.	
3. An acquaintance with standard coding conventions recommended for Driver Data.	
4. An appreciation of the ways in which the collection, coding, and reporting of Driver Data impact on his own functions in the Traffic Records System.	
4.2 **DRIVER DATA REQUIRED BY SAFETY PROGRAM (15 minutes)**	
A. Categories of Driver Data Required: • Identification • Driver Education	Refer participants to Study Aid #4-2; Enumerate data categories; Go briefly through data elements, as in Module 3.

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Licensing	
• Medical	
• Driving performance	
B. Data elements that should be collected to meet Program requirements, by data category:	
1. Identification	
• Name - last, first and middle	
• Address - house number, street, city, state, zip code	
• Identification number(s)	Point out that ID number and date and place of birth are useful in providing positive identification in cases of similar names.
• Date and place of birth	
• Sex	
• Physcial characteristics (height, weight, color of eyes and hair, etc.)	Some of this data is not carried by all states; data is readily changeable.
2. Driver Education	
• Program type	
• Date of completion	
• Name of organization	
• Type of organization	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
3. Licensing	
• Date of examination	
• Results	Indicate results recorded in your State (e.g., pass-fail, score, or whatever).
• Restrictions	
4. Medical	
• Physical deficiencies	
• Mental or nervous impediments	
• Alcohol/drug problems	
5. Driving performance	
• Alcohol/drug involvements	
• Crash involvements	
• Traffic violation convictions	
• Department actions	
• Prior driving experience (prior to licensing in this State)	Indicate that this data will have to be collected from other States.
4.3 USES OF DRIVER DATA, BY SAFETY PROGRAM AREA (25 minutes)	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
A. **Planning, Administration, Evaluation**	
• Driver data a key parameter affecting planning, operations, evaluation and change of highway safety programs	
• Necessary to support programs for:	
- passage of legislation	
- public information	
B. **Traffic Laws and Regulations**	
• Drivers' performance evaluation in connection with license withdrawals and departmental actions	
• Referral to driver rehabilitation facilities/ programs	
• Means to determine eligibility for motorcycle or other special class licensing	
• Means to determine need for rexamination	
C. **Vehicle Requirements**	
• Data on revocation of license needed for Vehicle Requirements program area where enforcement by suspension of registration is used	Omit reference to this if the procedure is not used in your State.
• Data needed to support evaluative research into impact of driver performance on vehicle safety	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
D. Traffic Safety Education	
• Driver performance data needed for mandatory rehabilitation, re-education, or refresher instructional programs	
• Driver data needed to evaluate effectiveness of traffic safety education programs	Show Classroom Aid #4-1 and discuss uses of such reports.
E. Driver Licensing	
1. Driver data, of course, central to Driver Licensing Program area. In general, it is used for and derived from:	Mention significant recent advancements in your State's examination procedure
• Examinations	
• Re-Examinations	
• Licensing	
• Driver improvement programs	
2. Establishment and updating of licensing criteria	
3. Driver license control system. Driver data describes licensed, and identifies unlicensed drivers. Needed for all system functions, e.g., the following:	Describe organization and/or components of your State's driver control system with respect to specific driver data supporting specific control actions
• Withdrawals/denials	
• Remedial programs with restrictive licensing	
• Advisory boards	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
● Medical evaluation	
● Early detection and treatment of alcohol/drug problems	
4. Examination and Re-Examination	
● Determining need for re-examination	
● Evaluating examination and re-examination programs	
● Measuring driver recidivism following licensing action	
5. Maintaining driver information data system	
6. Establishing, maintaining interstate reciprocity programs.	
F. Police Traffic Services	
Driver data is used in connection with this program area in a number of ways including the following:	
1. Police supply other agencies with driver data as needed	
● Traffic violations	
● Driver arrests	
● Alcohol/drug use by drivers	
2. Driver data on alcohol/drug use is needed for planning selective enforcement measures.	
3. Driver data used to aid in identifying appropriate subjects for investigation by crash investigation teams.	

Topic Outline	Approach/Procedures
G. Traffic Courts and Adjudication Systems	
Driver data is used in connection with the following:	
1. Preparation of pre-sentence investigation report	Note that Statewide availability of data is supportive of an equitable system, providing ready access by appropriate parties to data on all violators (whether local or out-of-town) prior to sentencing.
2. Case disposition reports from courts used to update driver data system	
3. Driver data used in evaluation of traffic courts and adjudication system, particularly in connection with recidivism rates and particular case disposition	
4.4 SOURCES AND MEANS OF COLLECTING DRIVER DATA (20 minutes)	
A. Driver licensing agency	Show copies of your State's forms relating to these data sources and relate them to the required driver data elements in 4.2 (above).
• Drivers' tests	
• Drivers' license forms	
• Violation records from Violations Bureau	
• Renewal forms and tests	
• Remedial or rehabilitation	
– Traffic safety courses	
– Alcohol or other drug programs	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
B. Traffic Courts ● Reports on convictions, sentences, recommendations	
C. Driver education school records	
D. Police ● Violation citations ● Alcohol test records	
E. From other states through reciprocal agreements	As an example, refer to State interface with the National Driver Register.
4.5 CODING CONVENTIONS - EXAMPLES OF SIMPLE AND RELATIVELY COMPLEX CODINGS FOR DRIVER DATA (15 minutes)	
A. Recommended Structure for Data in Driver Data Subsystem includes three files: ● Driver/Owner Directory ● Driver History ● Financial Responsibility	Refer participants to Reference No. 2 for Module 4 (Design Manual): Vol. II, Section 1, for thorough treatment of suggested Driver Data Codings.
B. Discussion of Each File, with Examples of Coded Elements 1. Driver/Owner Directory Driver/Owner Directory incorporates listings for personally owned and non-personally	4.5B is optional material. Use only as needed. Discuss files and coding.

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
owned vehicles. Rationale is to minimize duplication of listings of name, address, and other pertinent data for each vehicle.	
Examples of Coded Data:	
• Motor Vehicle Driver/Owner Full Name	
• Motor Vehicle Driver/Owner Complete Address	
• Restrictions	
• Impairments	
2. Driver History	
Examples of Coded Data:	
• Driver Training	
• Violation Experience Type	Point out that coding of these elements is based on AAMVA Violation Exchange Code (February, 1967).
• Reason for Denial/Withdrawal	
• Departmental Driver Improvement Actions	
• State of Previous Licensing	Mention that these are recommended. No need to illustrate.
• States in which Driving Privileges Denied/Withdrawn	
• Date of Denial/Withdrawal of Privileges in other States	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
3. Financial Responsibility These elements should conform to specific requirements for administering State's financial responsibility laws. 4.6 ILLUSTRATIONS OF DRIVER DATA REQUIREMENTS AND USES -- GUEST SPEAKER FROM DRIVER LICENSING AGENCY (30 minutes) Suggested topics: • Problems in collecting driver data • Any other types or sources of driver data than mentioned in 4.1 • How accuracy of data supplied by driver is ascertained • Who requests special reports from driver data -- what types of reports • Effects of the time lag for reports from police, other states, etc., to be entered into system • Extent of use of driver data by police, courts; how data is requested • Insurance company requests for driver data -- how many, types, purpose for which used • Problems that have arisen in relation to driver data in experience of guest speaker	

MODULE 4. DRIVER DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures

4.7 PROBLEM-SOLVING/DISCUSSION PERIOD
(10 minutes)

Suggested topics:

- Have participants suggest solutions to real problems brought up by guest speaker
- Discuss merits of various types of drivers' licenses in relation to uses of driver data: paper, credit card, photo
- Discuss importance of a driver's record to his right to drive and insurance rates
- Trace the flow of distinct data elements such as height, date of birth, violation type, etc. (refer to Design Manual, Volume II) throughout the collection, analysis, and reporting process
- Discuss individual State's financial responsibility law and how it is aided by driver data in the TRS
- Discuss how and for what purposes driver data reports are sent and received to/from other states through reciprocal agreements

MODULE 5. VEHICLE DATA SUBSYSTEM

Schedule

	Major Topics	Time in minutes
5.1	Introduction	05
5.2	Vehicle Data Required by Highway Safety Program	15
5.3	Uses of Vehicle Data by Safety Program Area	25
5.4	Sources and Means of Collecting Vehicle Data	20
5.5	Coding Conventions	15
5.6	Illustrations of Vehicle Data Requirements and Uses -- Guest Speaker from Vehicle Registration Agency	30
5.7	Problem-Solving/Discussion Period	10

Module Objectives

Upon completion of Module 5, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Vehicle Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Vehicle Data and means of collecting it.

3. An acquaintance with standard coding conventions recommended for Vehicle Data.

4. An appreciation of the ways in which the collection, coding, and reporting of Vehicle Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Vol. 10 and Supplement 1 to Vol. 10. Also, Vols. 1, 2, and 3.

2. Design Manual for State Traffic Records Systems

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard and chalk
3. Overhead projector
4. Screen

Classroom Aids:

5-1 Hypothetical TRS Report comparing vehicle defects reported at inspection with those reported at crash
5-2 Histogram relating crash occurrence to time elapsed since vehicle inspection
5-3 Hypothetical TRS Report summarizing registration status for all registered vehicles by body type

Study Aids

5-1 General Objectives of Module 5
5-2 Critical data elements required for the Vehicle Data Subsystem

MODULE 5. VEHICLE DATA SUBSYSTEM

Topic Outline	Approach/Procedures
5.1 **INTRODUCTION (05 minutes)**	
A. Title of Module 5: "Vehicle Data Subsystem"	
B. Purpose of Module 5: To develop the participant's familiarity with the requirements and uses of the vehicle data subsystem through the attainment of four module objectives, the accomplishment of which will allow the participant to demonstrate:	Refer participants to Study Aid #5-1
1. A knowledge of the data elements in the Vehicle Data Subsystem and a knowledge of its uses.	
2. A knowledge of the sources of Vehicle Data and means of collecting it.	
3. An acquaintance with standard coding conventions recommended for Vehicle Data.	
4. An appreciation of the ways in which the collection, coding, and reporting of Vehicle Data impact on his own functions in the Traffic Records System.	
5.2 **VEHICLE DATA REQUIRED BY HIGHWAY SAFETY PROGRAM (15 minutes)**	
A. Categories of vehicle data required:	Enumerate data categories
• Vehicle identification data	

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Vehicle ownership data	
• Vehicle history data	
B. Data elements that should be collected to meet Program requirements, by Data Category:	Refer participants to Study Aid #5-2
1. Vehicle Identification Data	Go briefly through data elements, discussing them where questions arise, and where there are noteworthy points to be made about particular elements as collected and reported in your State's system.
• Make	
• Model	
• Model year	
• Body type	
• Vehicle identification number (VIN)	
• Other Vehicle Descriptive Data	
- Empty weight (passenger car) - Gross laden weight (commercial vehicle) - Engine size - Motorcycle engine size - Fuel type - Length, width, number axles (commercial vehicle) - Seat capacity (buses)	
2. Vehicle Ownership Data	
• Owner identification	
• Current address (residence) - house number, street, city, state, zip code	
• Principal location of garaging	
• Current registration plate number	

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Current title number	
• Previous title number	
• Previous ownership	
• Odometer reading at transfer of ownership	
• Registration expiration date	
3. Vehicle History Data	
• Crash	
- Date of event	
- Severity (damage to vehicle)	
• Inspection	
- Date	
- Defects by category	
- Mileage or odometer reading	
- Defect repair cost	
• Registration withdrawals	
- Date of withdrawal	
- Date of reinstatement	
• Stolen or abandoned	
- Date of event	
- Disposition	

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
5.3 USES OF VEHICLE DATA, BY SAFETY PROGRAM AREA (25 minutes)	
A. Planning, Administration Evaluation	
• Vehicle data, like driver data, is key parameter affecting planning, operations, evaluation, and change of highway safety programs	Show Classroom Aids #5-1 and #5-2
• It is necessary for the following: - To support enactment of traffic legislation - To provide detailed information, where needed, -- To NHTSA and other government agencies -- To agencies conducting research studies -- To public	
B. Vehicle Requirements	
Vehicle data is, of course, basic to formulation, implementation and evaluation of all aspects of Vehicle Requirements Program area	
1. Motor vehicle registration • To insure rapid identification of vehicle and owner • To insure rapid entry of new registration data (and rapid and accurate updating of registration data)	Show Classroom Aid #5-3

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Among the products here may be new or corrected owner registration certificates and annual vehicle registration renewal certificates	
• To control vehicle use by problem drivers	
• To control ownership documentation of abandoned, junked, or stolen vehicles	
• To provide registration or ownership data to government and private agencies, and citizens	
• To support current vehicle data system which provides such data as safety history of registered vehicles in relation to accident incidence and inspection	
2. Vehicle inspection	
• To insure satisfactory operating condition of registered vehicles	Show Classroom Aid #5-1
• To insure equipment provisions of vehicle requirements are met	
• To provide data for inspection data summaries, (which may be used in connection with safety history data from registration program)	
C. Driver Licensing	
Vehicle data needed where additional sanctions (e.g., suspension of registration) to be invoked against problem drivers whose licenses have been revoked	

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
D. Police Traffic Services Law enforcement would utilize data for such purposes as: ● Verification of registration ● Identification of stolen vehicles or plates ● Identification of owners guilty of violating traffic laws such as leaving scene of accident, or vehicle abandonment ● Ascertaining and reporting violations of equipment requirements	
5.4 SOURCES AND MEANS OF COLLECTING VEHICLE DATA (20 minutes)	
A. Vehicle registration document ● Make, model, year, body type, registration classification ● Vehicle identification number (VIN) ● Empty weight, engine cc's (motorcycle only), length and gross laden weight (commercial vehicle only)	Show and discuss State's registration and title forms
B. State Department of Motor Vehicles ● Title number ● Previous title number ● Previous ownership	

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Crash date and severity	
• Insepction data	
C. Law Enforcement Agencies	
• Officers' reports of detected defects in operational condition of vehicles	
• Stolen or abandoned	
D. Privately Operated Inspection Stations	If State operates stations directly, discuss "Inspection Data" under State Department Motor Vehicles (above)
• Inspection data	
• Cost of repair	
5.5 CODING CONVENTIONS (15 minutes)	
A. Recommended Structure for data in Vehicle Data Subsystem includes five files:	Refer participants to Reference No. 2 for Module 5 (Design Manual): Vol. II, Section 2, for thorough treatment of suggested Vehicle Data codings
• Vehicle Identification Directory	
• Registration Data	
• Vehicle History	
• Stolen, Abandoned and Lost Property Data	
• Titling and Financial Data	
B. Discussion of Each File, with Examples of Coded Elements	

MODULE 5. VEHICLE DATA SUBSYTEM

(Continued)

Topic Outline	Approach/Procedures
1. Vehicle Identification Directory	Discuss functional objectives of each file.
Examples of Coded Elements:	
● Make ● Model	Point out that Codes for make and model are standard FBI (National Crime Information Center) codes, updated yearly, and are not included in Design Manual.
● Body Type	
● Vehicle History Indicator	
● Principal Location of Garaging	
2. Registration Data	
Examples of Coded Elements:	
● License Plate Type	
● Fuel Type	
● Date of Original Registration	
● Odometer Reading at Transfer of Ownership	
3. Vehicle History	
Examples of Coded Elements:	
● Date Inspected	Emphasize that inspection is essential to any

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
	well-managed system. State must determine how long data is to be carried in system.
• Odometer Reading at Inspection	
• Inspection Station Number	
• Inspector Identification Number	
• Inspection Failure(s)	
• Inspection Defect(s) Repair Cost	
• Accident Experience Vehicle Damage Severity	
• State of Previous Registration	If these elements are in the State traffic records system currently, or will be according to present plans, discuss usefulness of this data. If not, point out that these elements should be considered, and discuss possible usefulness.
• Final Vehicle Disposition	
• Date of Disposition	
4. Stolen, Abandoned, and Lost Property Data	This data is kept for purposes of monitoring State success in handling stolen vehicle problem. Reference to Examples of coded elements unnecessary.

MODULE 5. VEHICLE DATA SUBSYSTEM
(Continued)

Topic Outline	Approach/Procedures

5. Titling and Financial Data

   These elements should conform to specific requirements for administering State's property ownership and titling laws

5.6 ILLUSTRATIONS OF VEHICLE DATA REQUIREMENTS AND USES -- GUEST SPEAKER FROM VEHICLE REGISTRATION AGENCY (30 minutes)

Suggested topics:

- Description and examples of state's vehicle registration and title documents
  - What vehicle data is listed
  - Who originally supplies the data (driver, state, auto dealer, etc.)
- Effects of vehicle data such as weight, gross laden weight, line, body type, axles on charges for registration and licensing
- Discuss how much of the vehicle history data discussed in 5.2, B, 3 (above) is currently stored in the state's TRS, and if provisions are made for a prospective buyer of a used vehicle to obtain its history

5.7 PROBLEM-SOLVING/DISCUSSION PERIOD (10 minutes)

MODULE 5. VEHICLE DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
Suggested topics: • Ask participants for suggested solutions to actual State problems brought up by guest speaker • Discuss importance of adequately describing commercial vehicles (trucks) for revenue purposes • Ask participants to identify specific potential users of vehicle data in your State.	

MODULE 6. ROADWAY DATA SUBSYTEM

Schedule

	Major Topics	Time in minutes
6.1	Introduction	05
6.2	Roadway Data Required by Highway Safety Program	15
6.3	Uses of Roadway Data, by Safety Program Area	25
6.4	Sources and Means of Collecting Roadway Data	20
6.5	Coding Conventions	15
6.6	Illustrations of Roadway Data Requirements and Uses -- Guest Speaker from Highway Department	30
6.7	Problem-Solving/Discussion Period	10

Module Objectives

Upon completion of Module 6, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Roadway Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Roadway Data and means of collecting it.

3. An acquaintance with standard coding conventions recommended for Roadway Data.

4. An appreciation of the ways in which collection, coding, and reporting of Roadway Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Vol. 10 and Supplement 1 to Volume 10. Also, Vols. 9, 12, and 13.

2. Design Manual for State Traffic Records Systems, Vol. I and Vol. II, Section 3.

3. FHWA. Recording and Coding Guide for the Structure, Inventory, and Appraisal of the Nation's Bridges. July, 1972.

Facilities, Equipment, and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

6-1 Hypothetical TRS report showing basic statistics for high frequency crash locations
6-2 Hypothetical TRS report showing percentage of various types of crashes involving highway obstructions or debris
6-3 Speed Distribution Chart

Study Aids

6-1 General Objectives of Module 6
6-2 Critical Data Elements Required for the Roadway Data Subsystem
6-3 Form for ordering data in support of traffic signal warrants
6-4 Form for submission of condition diagrams
6-5 Pedestrian volume summary sheet

MODULE 6. ROADWAY DATA SUBSYSTEM

Topic Outline	Approach/Procedures
6.1 **INTRODUCTION (05 minutes)**	
A. Title of Module 6: "Roadway Data Subsystem"	
B. Purpose of Module 6: To develop the participant's familiarity with the requirements and uses of the Roadway Data Subsystem, more specifically, to provide him with the following: 1. A knowledge of the data elements in the Roadway Data Subsystem and a knowledge of its uses. 2. A knowledge of the sources of Roadway Data and means of collecting it. 3. An acquaintance with standard coding conventions recommended for Roadway Data. 4. An appreciation of the ways in which collection, coding, and reporting of Roadway Data impact on his own functions in the Traffic Records System.	Refer participants to Study Aid #6-1
6.2 **ROADWAY DATA REQUIRED BY THE SAFETY PROGRAM (15 minutes)**	
A. Categories of roadway data required: • Roadway identification data • Roadway characteristics data	Refer participants to Study Aid #6-2. Enumerate data categories. Go briefly through data elements.

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
- Lengths of roadway	
- Intersections/interchanges	
- Bridges	
• Roadway history data	
B. Data elements that should be collected to meet Program requirements:	
1. Roadway identification data	
• Unit of government (city, county)	
• Class of traffic way	
• Road number/street name	
• Precise location descriptor	
- Point location	
- Type of area development	
2. Roadway characteristics data	
• Design characteristics	
• Traffic control devices	
• Traffic characteristics	
3. Data required for bridges only	Data required under FHWA National Bridge Inspection Standards. See Reference No. 3, for Module 6.
• Bridge structure rating	
• Proposed improvements	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
4. Roadway history by location	
• Improvements	
• Road defects	
• Maintenance	
• Crashes	
• Traffic violation convictions	
• Countermeasures	
6.3 **USES OF ROADWAY DATA BY SAFETY PROGRAM AREA (25 minutes)**	
A. Program Administration and Evaluation	
1. Identification of hazardous and potentially hazardous roadway locations, overall roadway inventory needed by Highway Department and Highway Safety Directorate for:	Show Classroom Aid #6-1
• Analysis of State's crash problems	
• Evaluation of countermeasure programs	
2. Public information programs to gain overall support for highway programs	
B. Traffic Laws and Regulations	
• Needed for planning and evaluation of traffic laws and identifying need for new laws	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Needed for identifying countermeasure requirements (improved signs, additional law enforcement, etc.)	
C. Police Traffic Services	
Roadway data needed for the following:	
• Crash investigation and reporting	
• Traffic direction and control	
• Planning, implementing selective countermeasure policies based on:	
- Traffic volume	
- Crash experience	
• Planning communications support systems	
• Police notification of highway agency of highway defects or obstructions	Show Classroom Aid #6-2
• Evaluating Police Traffic Services	
- Selective enforcement effectiveness	
- Accuracy of reporting procedures	
D. Traffic Courts and Adjudication Systems	
• Roadway data needed as evidence in traffic courts	
- Existence/operation of traffic controls	
- Description of accident scene	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
E. Emergency Medical Services	
• Roadway data needed in planning locations for EMS facilities and determining areas of EMS responsibility	
• Needed for planning communications support systems	
6.4 SOURCES AND MEANS OF COLLECTING ROADWAY DATA (20 minutes)	
A. State Highway Department -- Research and Planning (or Records) Division	
• State/Regional traffic/roadway plans	
• Roadway unit identification data	
• Traffic control devices requirements	Show Classroom Aid #6-3
• Traffic engineering field team reports	
B. County and Municipal Highway/Traffic Departments	Refer to Study Aids #6-3, 6-4, and 6-5.
• Local traffic/roadway plans	Emphasize need for insuring compatibility between State and local traffic records data.
• Construction drawings and specifications	
• Intersection and roadway unit diagrams	
• Tabulated roadway inventories	Many of these sources of data have counterparts on the State level that are quite similar.
• Traffic control device inventories	

Topic Outline	Approach/Procedures
• Curb and lane marking layouts	
• Maintenance and roadway improvement work orders	
• Vehicle and pedestrian volume studies	
• Traffic movement and characteristics studies	
• Roadway sufficiency studies	
C. Law Enforcement Agencies	Refer participants to Study Aid #3-2 (for Module 3), and point out elements of roadway data in Crash Data Subsystem
• Crash reports by police (and drivers)	
• Traffic citation and adjudication reports	
• Roadway defect reports	
• Selective countermeasure plans	
6.5 CODING CONVENTIONS (15 minutes)	
A. Recommended structure of data in Roadway Data Subsystem includes four files:	Refer to Reference No. 2 for Module 6 (Design Manual): Vol. II, Section 3, for thorough treatment of suggested Roadway Data codings. Also, see Reference No. 3.
• Roadway Location Directory	
• Basic Roadway Characteristics File	
• Intersection Characteristics File	
• Bridge Structure Inventory File	
• Roadway Location History File	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
B. Discussion of Each File, with Examples of Coded Elements	6.6B is optional. Use as needed.
1. Roadway Location Directory	
Examples of Coded Elements:	
● Roadway Location Identifier (Identifies (a) specific milepoint or intersection, (b) specific two roads in intersection, (c) county and (if applicable) municipality)	
● Roadway Location, Type of Area Development	
● Roadway Location History Indicator	
● Roadway Location Accident Totals	
● Roadway Location Violation Totals	
2. Basic Roadway Characteristics File	
Examples of Coded Elements:	
● Auxiliary Lanes	
● Median Type	
● Type of Surface	
● Lighting, Lateral Placement from Traffic Lane	
● Guardrail Type	
● Traffic Control Device, Type	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
● Non-Intersection Freeway Exit	
● Cross-over, Permitted Usage	
3. Intersection Characteristics File	
Examples of Coded Elements:	
● Intersection Type	
● Intersection, Turn Restrictions	Point out that same format is used for coding intersection sight restrictions and intersection channelization.
● Interchange, Type	
● Interchange, Type of Access/Egress	
● Interchange, Channelization	
● Interchange, Traffic Control Devices	
4. Bridge Structure Inventory File	Point out that this file meets specific requirements of 1972 FHWA Standard (that all bridges carrying or passing over Federal-aid highways be inventoried even though inspection may not be mandatory) -- above and beyond National Highway Safety laws. Describe coding format for bridge structure number in your State.
● Bridge Structure Number	

MODULE 6. ROADWAY DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
5. Roadway Location History File	
Examples of Coded Elements:	
• Construction Project Number	Describe coding for Construction Project Number in your State.
• Type of Improvement	
• Current Defect(s) Reported	
• Traffic Countermeasure Action, Type	
• Traffic Countermeasure Action, Method	Traffic Countermeasure Action, Method, as coded in this file, is simplification of the same element in the Traffic Law Enforcement and Adjudication Data Subsystem
6.6 ILLUSTRATIONS OF ROADWAY DATA REQUIREMENTS AND USES -- GUEST SPEAKER FROM HIGHWAY DEPARTMENT (30 minutes)	
Suggested Topics:	
• How roadway data supports planning, traffic management, roadway maintenance	
• Examples of how roadway data has identified and/or solved safety problems	
• Problems in collecting accurate roadway data	
• Problems in keeping roadway data current	

Topic Outline	Approach/Procedures
6.7 PROBLEM-SOLVING/DISCUSSION PERIOD (10 minutes) Suggested topics: ● Ask participants to formulate solutions to problems brought up by guest speaker ● Ask questions relating to the importance of various roadway data elements, such as How can the type of roadway location traveled across by the driver immediately preceding the crash location contribute to the crash (rapid changes in conditions may be difficult or impossible for the driver to adapt to in time available)?	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

Schedule

	Major Topics	Time in Minutes
7.1	Introduction	05
7.2	Emergency Services Data Required by Highway Safety Program	20
7.3	Uses of Emergency Services Data, by Safety Program Area	40
7.4	Sources and Means of Collecting Emergency Services Data	15
7.5	Coding Conventions	20
7.6	Problem-Solving/Discussion Period	20

Module Objectives

Upon completion of Module 7, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Emergency Services Data Subsystem and a knowledge of its uses.

2. A knowledge of the Sources of Emergency Services Data, and means of collecting it.

3. An acquaintance with standard coding conventions recommended for Emergency Services Data.

4. An appreciation of the ways in which the collection, coding, and reporting of Emergency Services Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Vol. 10 and Supplement 1 to Vol. 10. Vol. 11 and Supplement 1 to Vol. 11.

2. Design Manual for State Traffic Records Systems.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

7-1 Section of crash report which accommodates reporting of EMS data
7-2 Example(s) of EMS Unit report and/or EMF report in use in your State

Study Aids

7-1 General Objectives of Module 7
7-2 Critical Data Elements Required for the Emergency Services Data Subsystem

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

Topic Outline	Approach/Procedures
7.1 INTRODUCTION (05 minutes)	
A. Title of Module 7: "Emergency Services Data Subsystem"	
B. Purpose of Module 7:	
To provide the participant with an awareness of the importance of the Emergency Services Data Subsystem to the Traffic Records System, ensuring that he has the following:	Refer participants to Study Aid #7-1
1. A knowledge of the data elements in the Emergency Services Data Subsystem and a knowledge of its uses.	
2. A knowledge of the sources of Emergency Services Data, and means of collecting it.	
3. An acquaintance with standard coding conventions recommended for Emergency Services Data.	
4. An appreciation of the ways in which the collection, coding, and reporting of Emergency Services Data impact on his own functions in the Traffic Records System.	
7.2 EMERGENCY SERVICES DATA REQUIRED BY SAFETY PROGRAM (20 minutes)	
A. Purposes	
Purposes of Emergency Services Data Subsystem are as follows:	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• To inventory available services throughout State with respect to specific areas	
• To monitor operations	
• To provide planning support	
• To aid in licensing of emergency vehicles	
B. Categories of Emergency Services Data Required:	Enumerate Data Categories
• Emergency organization identification data	
• Emergency medical services inventory data	
• Hospital/Medical Center Emergency Room inventory data	
• EMS operations data	
C. Data elements that should be collected to meet Program requirements, by Data Category	Refer participants to Study Aid #7-2. Go briefly through data elements, discussing them as needed.
1. Emergency Service Organization data	
• Name	
• Address	
• Type	
• Service provided	
2. Emergency Medical Services data	
• Organization name	
• EMS vehicle data	
• Special equipment capabilities	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Driver data	
• Hours of EMS unit operation	
• Number of Doctors on staff	
• Number and type of Nurses on staff	
• Training of other EMS personnel	
3. Hospital/Medical Center Emergency Room Inventory	
• Hospital/Medical Center name	
• Emergency room capabilities and hours of operation	
• Number of Doctors assigned/available	
• Number and type of Nurses	
4. EMS Operations data	
• Organization name	
• Date	
• Time factors	
• Patient name	
• Services rendered	
• Accident Case Number	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures

7.3 USES OF EMERGENCY SERVICES DATA BY SAFETY PROGRAM AREA (40 minutes)

A. Planning, Administration, and Evaluation

Emergency Services data needed for the following:

- To plan for adequate EMS at State level, and to help other agencies and local units in planning.
- To administer EMS-earmarked funds in rational manner.
- To support countermeasure effectiveness studies.
- To permit overall evaluation of State EMS.
- To support public information programs.

B. Traffic Safety Education

EMS data needed to support planning and evaluating special instruction programs for drivers of special-purpose vehicles.

C. Police Traffic Services

1. EMS data needed to support law enforcement agencies in efforts to coordinate EMS operations:
    - Notification of crash
    - Coordination of various services at crash scene
    - Restoration of scene

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Needed to keep law enforcement agencies informed of EMS equipment currently available or recommended.	
3. Needed (along with data from other Subsystems) to support crash investigation teams	
D. Traffic Courts and Adjudication Systems	
EMS data may help in supplying: • Witnesses to crash scene • Detailed crash description • Detailed description of injured	
E. Emergency Medical Services	Indicate possible EMS reports as output from a State Traffic Records System, e.g.:
EMS data naturally at heart of EMS program; is needed for virtually every aspect of program:	
1. To monitor the administration of program throughout State, i.e., to see that adequate on-site care, and transportation to designated facilities, are provided in all jurisdictions.	• Ambulance data listing by municipalities
2. To ensure that regulations regarding: (1) equipment of EMS vehicles and facilities, (2) staffing of ambulance services, and (3) certification, training and retraining of EMS technicians, are followed throughout State.	• Ambulance activity by ambulance type, time of day, day of week • EMS vehicles involved in accidents
3. To ensure the development, implementation and evaluation of the statewide EMS comprehensive plan, including:	• Standard requirements concerning ambulance equipment
• Inventory of current resources and future needs	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Plan for coordination of EMS with other emergency organizations	
• Definition of authority at crash scene	
• Definition of local areas of EMS responsibility	
4. Specifically, input is needed to monitor and evaluate the EMS operations in terms of such measurable factors as the following:	
• Response time (of EMS units)	
• Services rendered	
• Effects of services rendered	
• Compliance with specific Program requirements	
7.4 **SOURCES AND MEANS OF COLLECTING EMS DATA (15 minutes)**	
A. Emergency Medical (and Rescue Services)	
• Data on organizations gathered by survey	Indicate categories or elements of data as enumerated under 7.2.C. (above)
B. Hospitals/Medical Centers	
• Hospital/Medical Center Emergency room inventory surveys	
• EMF classification surveys	

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
C. Crash Reports	Show Classroom Aid #7-1 and discuss
• EMS operations data (available from some crash reports)	
D. Emergency Dispatchers, Ambulance Drivers, Emergency Medical Technicians, and Emergency Room Personnel	Show Classroom Aid #7-2 and discuss, if State currently uses such reports. If not, point out importance of developing such a data collection procedure. Note possible need for legislation combined with strong administrative action.
• EMS unit reports	
• EMF reports	
7.5 CODING CONVENTIONS (20 minutes)	
A. Recommended Data Structure in Emergency Services. Data Subsystem includes four files:	Refer to Reference No. 2 for Module 7 (Design Manual): Vol. II, Section 5, for thorough treatment of suggested EMS data codings.
• Emergency Services Directory	
• Emergency Medical Services Inventory	
• Hospital/Medical Center Emergency Room Inventory	
• EMS Operations Data	
B. Discussion of Each File, with Examples of Coded Elements	7.5B is optional.
1. Emergency Services Directory	
• Emergency Organization Name	Point out that these

MODULE 7. EMERGENCY SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Emergency Organization Address	codings are identical to those in Driver/ Owner File in Driver Data Subsystem.
• Emergency Organization, County or other EMS Administrative Jurisdiction	
• Type of Emergency Services Provided	
2. Emergency Medical Services Inventory	
• Special EMS Equipment/Capabilities	
• Hours of EMS Organization Operation	
• Number of Personnel with Basic Red Cross training	
3. Hospital/Medical Center Emergency Room Inventory	
• Emergency Room, Services/Capabilities	
• Doctors' Availability for ER duty	
4. EMS Operations File	Point out that these data elements cover all time factors of significance in EMS activity. Explain significance of "match terms" in manual, in relating elements in the EMS Operations File to elements in the Basic Case Data File of the Crash Data Subsystem.
• EMS Call, Date	
• EMS Call, Time called	
• EMS Call, Time left Station	
• EMS Call, Time arrived at scene	
• EMS Call, Time left scene	
• EMS Call, Time arrived at Emergency Room	
• EMS Call, Time returned to Station	
• Patient Treatment status	

Topic Outline	Approach/Procedures
7.6 **PROBLEM-SOLVING DISCUSSION PERIOD (20 minutes)**	
Suggested topics:	
• Ask participants if EMS organizations can be completely evaluated by TRS data (Answer: no, they perform other non-traffic-related EMS)	
• Ask participants to bring up advantages and disadvantages of recording large amounts of EMS operations data on individual events vs. sampling	
• Discuss problems of coordination that might result from defining a traffic-related EMS situation entirely on reports from: -- Emergency dispatcher -- Ambulance driver, emergency medical technician and attendants -- Emergency room handling the case	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

Schedule

	Major Topics	Time in Minutes
8.1	Introduction	05
8.2	Traffic Law Enforcement and Adjudication Data Required by Highway Safety Program	15
8.3	Uses of Traffic Law Enforcement and Adjudication Data, by Safety Program Area	25
8.4	Sources and Means of Collecting Data	15
8.5	Coding Conventions	20
8.6	Illustrations of Data Requirements and Uses -- Guest Speaker from Law Enforcement Agency	30
8.7	Problem-Solving/Discussion Period	10

Module Objectives

Upon completion of Module 8, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Traffic Law Enforcement and Adjudication Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Traffic Law Enforcement and Adjudication Data and the means of collecting it.

3. An acquaintance with standard coding conventions recommended for Traffic Law Enforcement and Adjudication Data.

4. An appreciation of the ways in which the collection, coding and reporting of Traffic Law Enforcement and Adjudication Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Volume 10 and Supplement 1 to Volume 10. Volumes 7, 8, 15 and Supplement 1 to Volume 15, and Volume 16.

2. Design Manual for State Traffic Records System, Volume I and II.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

8-1 Hypothetical TRS Report showing number of crashes, violations, convictions before and after implementation of selective countermeasure actions.

8-2 Enforcement total action summary form

8-3 Daily Report of Traffic Unit

8-4 Weekly flow of citation/arrest data with computerized system

Study Aids

8-1 General Objectives of Module 8

8-2 Critical Data Elements Required for the Traffic Law Enforcement and Adjudication Data Subsystem

8-3 Same as Classroom Aid #8-1

8-4 Hypothetical TRS Report showing percentage of convictions by violation type and age of violators

8-5 Hypothetical TRS Report showing number of traffic violation convictions by type of violation

8-6 Hypothetical TRS Report showing number of convictions for various traffic violations by class of Driver's License

8-7 Hypothetical TRS Report showing number of citations and convictions by type of traffic violation

8-8 Hypothetical TRS Report showing changes in traffic violations between citation and conviction

8-9 Hypothetical TRS Report showing time lag between offense and conviction for various traffic violations

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

Topic Outline	Approach/Procedures
8.1 INTRODUCTION (05 minutes)	
A. Title of Module 8: "Traffic Law Enforcement and Adjudication Data Subsystem"	
B. Purpose of Module 8: To acquaint the participant with the Traffic Law Enforcement and Adjudication Data Subsystem, providing him with the following:	Refer participants to Study Aid #8-1
1. A knowledge of the data elements in the Traffic Law Enforcement and Adjudication Data Subsystem and a knowledge of its uses.	
2. A knowledge of the sources of Traffic Law Enforcement and Adjudication Data and means of collecting it.	
3. An acquaintance with standard coding conventions recommended for Traffic Law Enforcement and Adjudication Data.	
4. An appreciation of the ways in which the collection, coding and reporting of Traffic Law Enforcement and Adjudication Data impact on his own functions in the Traffic Records System.	
8.2 TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA REQUIRED BY SAFETY PROGRAM (15 minutes)	
A. Categories of Data Required:	Enumerate data categories
● Citation identification data	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Selective countermeasures data • Convictions data • Non-convictions data	
B. Data elements that should be collected to meet Program Requirements, by Data Category	
1. Citation Data • Citation Number • Location of Issuance • Issuing Police Agency • Status/Results of Adjudication	Refer participants to Study Aid #8-2 Go briefly through data elements, discussing them as needed.
2. Selective Countermeasures Data • Countermeasures Action Reference Number • Countermeasures Method • Special Program Identification • Roadway Location Identification • Action Type • Reason for Action • Date Initiated/Terminated • Time(s) of Application • Agency responsible for action	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Citations Issued	
• Date Citations Issued	
3. Convictions Data	
• Citation Number	
• Date	
• Day of Week	
• Time of Issuance	
• Location of Issuance	
• Driver Name, License Number	
• Address, Date of Birth, Sex, State of License, License Type, Restrictions (all for out-of-State drivers)	
• Compliance with License Restrictions	
• Vehicle License Plate Number (VIN)	
• State of Registration (for out-of-State vehicles)	
• Issuing Officer Badge Number, Reason for Presence at Scene of Violation	
• Countermeasures Action Reference Number	
• Bond Data	
• Original Citation Charge	
• Charge Tried on, Charge Convicted of	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Reason for Conviction on lesser charge	
• Date of First Appearance, Trial, Conviction	
• Sentence Fine, Term, Modifier, Special Order by Court, Court Recommendations	
• Date Conviction reported by Court	
• Judge Presiding	
• Crash Case Number (if applicable)	
4. Non-Convictions Data	Point out that Non-Convictions Data is as essential as Convictions Data, but that with Non-Convictions Data, the data identifying driver should be eliminated.
• Citation Number	
• Time of Issuance	
• Roadway Location	
• Issuing Officer Badge Number	
• Reason for Officer Presence at Scene of Violation	
• Countermeasures Action Reference Number	
• Bond Data	
• Original Citation Charge	
• Charge Prosecuted	
• Reason for Dropping Charge/Non-Conviction	
• Date of First Appearance, Date of Trial	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Date of Disposition of Charge Reported	
• Judge Presiding	
8.3 USES OF LAW ENFORCEMENT AND ADJUDICATION DATA BY SAFETY PROGRAM AREA (25 minutes)	
A. Program Administration and Evaluation	Show Classroom Aid #8-1 (Same as Study Aid #8-3, to which refer). Refer also to Study Aid #8-4.
Traffic law enforcement and adjudication data needed as follows:	
• Correlation of traffic countermeasure, adjudication, and crash data needed for planning and evaluation of various aspects of highway safety programs	
• Police crash investigation data, countermeasures activities, and adjudication data needed from Traffic Records System for multitude of program management purposes, including manpower development planning.	
• Summary data from all categories in this subsystem needed for support of legislative and public information programs.	
B. Traffic Laws and Regulations	
Citation conviction, non-conviction, and crash report data needed to plan, administer, and evaluate this area of the Program; e.g., in order to monitor the following:	Refer to Study Aid #8-5
• Conformance with the uniform traffic law requirement and enforcement	
• Enforcement of seat belt laws	

Topic Outline	Approach/Procedures
• Imposition of sanctions against persons driving with suspended licenses	
• Timely reporting of crashes	
• Enforcement of alcohol/drug laws	
• Enforcement of motorcycle safety laws	
• Enforcement of pupil transportation safety laws	
C. **Vehicle Requirements**	
Citation conviction, non-conviction and crash report data needed as input for monitoring the vehicle registration, equipment and inspection programs.	
D. **Traffic Safety Education**	
Citation conviction, non-conviction and crash report data needed to monitor and evaluate the post-licensing rehabilitation programs for crash- or violation-involved drivers and improvement of pre-licensing training programs	
E. **Driver Licensing**	
Citation conviction, non-conviction and crash report data needed to monitor such program areas as:	Refer to Study Aid #8-6
• Identification and control of problem drivers	
• Recidivism rates	
• Disposition of cases involving individuals driving with suspended license	
• Driver reexamination	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
F. Police Traffic Services	
Traffic law enforcement and adjudication data is, of course, crucial to virtually all aspects of program -- in particular, for the following uses:	Refer to Study Aid #8-7
• To ensure that jurisdictional and cooperative agreements are observed, and to indicate whether they are workable	
• To help in activity evaluation of police personnel	
• To monitor police handling of traffic law enforcement duties relating to crashes, alcohol/drugs, or to persons driving with suspended licenses.	
• To monitor data gathering of crash investigation teams.	
G. Traffic Courts and Adjudication Systems	
1. Traffic law enforcement and adjudication data can be used to monitor such aspects of this program area as the following:	Refer to Study Aids #8-8 and #8-9
• Participation of traffic courts and other adjudication agencies in driver control program	
• Participation of traffic courts and adjudication agencies in rehabilitation programs in lieu of suspension or revocation	
• Minimization of time between citation and adjudication	
2. Correlation of citation(s) and previous convictions data can be used by the Traffic	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
courts or other adjudication agencies in course of pre-sentence investigations.	
3. Data on case disposition, type and frequency of cases, and recidivism rates used in evaluation of Traffic Court and Adjudication Systems.	
8.4 SOURCES AND MEANS OF COLLECTING TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA (15 minutes)	
A. Courts and Adjudication Agencies	See Section 8.2 B.3 and 8.2 B.4 (above) for data collected.
• Direct Link to TRS	
• Paper Reports, Procedural Techniques	Show Classroom Aid #8-2
B. Police Departments	See Sections 8.2 B.1 and 8.2 B.2 (above) for data collected.
• Paper Reports and Procedural Techniques	
• Direct Link to TRS	Show Classroom Aids #8-3 and #8-4.
8.5 CODING CONVENTIONS (20 minutes)	
A. Recommended structure of data in Traffic Law Enforcement and Adjudication Data Subsystem includes four files:	Refer to Reference No. 2 for Module 8 (Design Manual): Vol. II, Section 6, for thorough treatment of suggested Traffic Law Enforcement and Adjudication data codings
• Enforcement and Adjudication Directory	
• Selective Countermeasures Actions File	
• Convictions Data File	
• Non-Convictions Data File	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
B. Discussion of Each File, with Examples of Coded Elements	8.5B is optional. Use as needed.
1. Enforcement and Adjudication Directory	
• Citation number	
• Issuing police agency	
• Adjudication Jurisdiction	
• Citation Adjudication Identifier	
• Countermeasures Action Reference Number	Discuss State method for reference numbering, if any. If none, cite need to develop one.
2. Selective Countermeasures Actions File	
• Special program identifier	
• Reason for Action	
• Time(s) of application	
• Countermeasures method	
• Action by	
3. Convictions Data File	
• Original Citation Charge	Point out that AAMVA Violations Exchange Code is recommended for use coding original citation charge, charge tried on, and conviction charge.
• Reason for Lesser Conviction than Charged	
• Sentence term	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Sentence modifier	
• Sentence, Special Order by Court	
• Court recommendations	
4. Non-Convictions Data File	Point out that coding formats for this file are identified to those for similar data elements in Convictions Data File.
8.6 **ILLUSTRATIONS OF DATA REQUIREMENTS AND USES -- GUEST SPEAKER FROM LAW ENFORCEMENT AGENCY (30 minutes)**	
Suggested topics:	
• Impact on data on projected manpower and equipment requirements	
• Impact on court calendars	
• Use of data for highway improvement and planning	
• Problems in collecting this data and in communicating it, particularly from courts and adjudication agencies	
8.7 **PROBLEM-SOLVING/DISCUSSION PERIOD (10 minutes)**	
Suggested topics:	
• Ask participants to suggest solutions to problems discussed by guest speaker	

MODULE 8. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
● Discuss uses of non-convictions data and elicit suggestions of reports that might be derived from such data.	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

Schedule

	Major Topics	Time in Minutes
9.1	Introduction	05
9.2	Educational Services Data Required by Highway Safety Program	25
9.3	Uses of Educational Services Data, by Safety Program Area	35
9.4	Sources and Means of Collecting Educational Services Data	15
9.5	Coding Conventions	20
9.6	Problem-Solving/Discussion Period	20

Module Objectives

Upon completion of Module 9, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Educational Services Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Educational Services Data and means of collecting it.

3. An acquaintance with standard coding conventions recommended for Educational Services Data.

4. An appreciation of the ways in which the collection, coding and reporting of Educational Services Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Vol. 10 and Supplement 1 to Vol. 10. Also, Vol. 4 and Supplement 1 to Vol. 4, and Vols. 14 and 17.

2. Design Manual for State Traffic Records System, Vol I-II.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

9-1 Hypothetical TRS Report relating driver education to crash involvement
9-2 Hypothetical TRS Report relating type of driver education to crash involvement

Study Aids

9-1 General Objectives of Module 9
9-2 Critical Data Elements Required for the Educational Services Data Subsystem

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

Topic Outline	Approach/Procedures
9.1 INTRODUCTION (05 minutes)	
A. Title of Module 9: "Educational Services Data Subsystem"	
B. Purpose of Module 9: To provide the participant with an awareness of the importance of the Educational Services Data Subsystem to the Traffic Records System, ensuring that he has the following: 1. A knowledge of the data elements in the Educational Services Data Subsystem and a knowledge of its uses. 2. A knowledge of the sources of Educational Services Data and means of collecting it. 3. An acquaintance with standard coding conventions recommended for Educational Services Data. 4. An appreciation of the ways in which the collection, coding and reporting of Educational Services Data impact on his own functions in the Traffic Records System.	Refer participants to Study Aid #9-1
9.2 EDUCATIONAL SERVICES DATA REQUIRED BY SAFETY PROGRAM (25 minutes)	
A. Categories of Educational Services Data Required • Educational Organization Identification • Educational Institutions Programs	Refer participants to Study Aid #9-2; Enumerate data categories; Go briefly through principal elements.

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Commercial Companies Programs	
• State Remedial Services Programs	
B. Data elements that should be collected to meet Program requirements, by Data Category	
1. Educational Services Organization Identification	
• Name	
• Address	
• Type	
• Services provided	
2. Educational Institutions Programs	
• Name	
• Size of Staff	
• School run or contracted	
• High School Driver Education (HSDE) Course	
-- Total hours and hour breakdown (class, simulator, practice)	
-- Type of equipment/vehicles used	
-- Vehicle identification and descriptors	
-- Vehicle practice areas and times	
-- Schedule	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Enrollment	
-- Cost (total and average per pupil) and method of financing	
• Primary School Pedestrian Education (PSPE) Course	
-- Total Hours	
-- Schedule	
-- Techniques	
• Adult Education Program (AEP)	
-- Total Hours and Hour Breakdown	
-- Type of Equipment/Vehicles used	
-- Vehicle Practice areas and times	
-- Schedule	
-- Enrollment	
-- Cost (total and average per student) and method of financing	
3. Commercial Companies Programs	
• Name	
• License number	
• Types of services	
• Private Driver Education (PDE) Course	
-- Schedule	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Total Hours and Hour Breakdown -- Vehicle practice areas and times -- Vehicle/equipment used (identification and description) -- Driver instructor name and license number 4. State Remedial Services Programs ● Name ● Number of Training Officers ● Number and types of remedial programs provided at Location ● Frequency of scheduling of each program type at each location ● For each type of program offered by State: -- Schedule -- Content emphasis -- Classroom hours -- Special training methods -- Tests required -- Recommended enrollment	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Recommended maximum enrollment -- Cost of conducting course	
9.3 **USES OF EDUCATIONAL SERVICES DATA, BY SAFETY PROGRAM AREA (35 minutes)**	
A. Planning, Administration, Evaluation Data on traffic education services is needed for: • Planning and Evaluating statewide traffic education program in relation to highway safety program • Maintaining Statewide quality standards established for all traffic education programs.	
B. Traffic Safety Education Educational Services data is of course central to this program area. It is essential to planning and evaluating of all traffic education subprograms such as the following:	Show Classroom Aids #9-1 and #9-2
• In-school traffic safety education • In-school beginning driver education • Pre-licensing "refresher/rehabilitation" program • Post-licensing "refresher/rehabilitation" program • Program for special categories of drivers • Adult beginner program	Emphasize that total traffic safety education includes not only beginning driver licensing program, but pedestrian, bicycle, and bus rider safety, and problem driver rehabilitation as well.

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
1. Establishing and maintaining uniform standards for the operation of public and commercial schools' programs	
● Instructional staff	
● Facilities and equipment	
● Curricula	
2. Maintenance of current inventory of needs and availability in traffic safety education programs.	
C. Driver Licensing	
1. Educational Services data provides information on all types of instruction available for beginning drivers and problem drivers.	
2. Educational Services data is essential part of data on the driver education background of individual drivers in the Driver Data Files.	
D. Police Traffic Services	
1. Educational Services data may be of use to law enforcement agencies investigating the driver education background of particular drivers.	
2. The data may be of use to crash investigation teams as a significant factor in the background of crash-involved drivers.	
E. Traffic Courts and Adjudication Systems	
1. Educational Services data constitutes integral part of driver history to be reviewed in course of pre-sentence investigation.	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Educational Services data files provide information on availability of rehabilitative instruction for problem drivers, in all parts of State.	
9.4 SOURCES AND MEANS OF COLLECTING EDUCATIONAL SERVICES DATA (15 minutes)	
A. Public and Private Educational Institutions (Primary and Secondary)	
• Annual reports through State Education Department channels • Funding applications • Educational institution records	Discuss nature and format of Annual or other type of reporting requirements from various educational service organizations in State.
B. State or local agencies offering rehabilitative instruction	
• Annual reports through State channels • Funding requirements	
C. Commercial Driving Schools	
• Annual reports required by State accreditation/certification agency	
D. Adult Education Institutions	
• Reports through State Education Department channels	
E. Other reporting requirements (as applicable in State)	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
9.5 **CODING CENVENTIONS (20 minutes)**	
A. Recommended Structure of data in Educational Services Data Subsystem includes four files: • Educational Services Directory • Educational Institutions Inventory • Commercial Companies Inventory • State Remedial Services Inventory	Refer to Reference No. 2 for Module 9 (Design Manual): Vol. II, Section 7, for thorough treatment of suggested Educational Services codings.
B. Discussion of Each File, with Examples of Coded Elements	9.5B is optional. Use as needed.
1. Educational Services Directory	
• Educational Organization, Name • Educational Organization, Address • Educational Organization, Jurisdictional Authority • Educational Organization, Type • Type Driver Education Services Provided	Point out that name and address format is identical to that discussed under Driver Data Files, Driver/Owner Directory.
2. Educational Institutions Inventory • Ownership of High School Driver Education (HSDE) Vehicles Used • HSDE Vehicle Practice Area • HSDE Course Schedule	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Primary School Traffic Safety Education (PSTSE), Schedule	
• PSTSE, Techniques employed	
• Adult Education Program (AEP) data elements	Point out that coding formats for AEP data elements are virtually identical to those for HSDE data elements.
3. **Commercial Companies Inventory**	Point out that since many commercial companies provide high school driver education equivalent programs, the data elements and codings are essentially similar to those for HSDE data elements.
• Types of Driver Education Services Provided	
• PDE Vehicle, License Plate Number	
• PDE Vehicle, VIN	
• Driver Instructor, Name	Point out that driver instructor and vehicle identification data elements are identical to those in Driver Data and Vehicle Data Files.
• Driver Instructor, License Number	
4. State Remedial Services Inventory	
• Remedial Program Identification Provided at Location	Discuss State program identification numbering scheme, or need to develop one.
• Frequency of Remedial Program conducted at Location	
• Remedial Program Emphasis	

MODULE 9. EDUCATIONAL SERVICES DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
9.6 **PROBLEM-SOLVING/DISCUSSION PERIOD (20 minutes)** Suggested topics: • How should the effectiveness of a driver education course be measured? • Standards for judging State-approved driver education courses. Some standards are: 1. Course based on state-approved curriculum guide 2. Taught by persons licensed by designated state agency 3. Composed of classroom and laboratory instruction with appropriate time allotment and content for each. • The role of first-aid training in driver education.	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

Schedule

	Major Topics	Time in Minutes
10.1	Introduction	05
10.2	Safety Program Management Data Required by Safety Program	30
10.3	Uses of Safety Program Management Data	45
10.4	Sources and Means of Generating Data	30
10.5	Coding Conventions	40
10.6	Problem-Solving/Discussion Period	30
	TOTAL	180

Module Objectives

Upon completion of Module 10, the participant will be able to demonstrate:

1. A knowledge of the data elements in the Safety Program Management Data Subsystem and a knowledge of its uses.

2. A knowledge of the sources of Safety Program Management Data and means of generating it.

3. An acquaintance with standard coding conventions recommended for Safety Program Management Data.

4. An appreciation of the ways in which the generation, coding, and reporting of Safety Program Management Data impact on his own functions in the Traffic Records System.

References

1. NHTSA. Highway Safety Program Manual. Volume 0, Volume 10, and Supplement to Volume 10.

2. Design Manual for State Traffic Records System, Volumes I and II.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead Projector
4. Screen

Study Aids

10-1 General Objectives of Module 10
10-2 Critical Data Elements Required for the Safety Program Management Data Subsystem

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

Topic Outline	Approach/Procedures
10.1 **INTRODUCTION (05 minutes)**	
A. Title of Module 10:	
"The Safety Program Management Data Subsystem"	
B. Purpose of Module 10:	Refer to Study Aid #10-1
To develop the participant's understanding of the unique function of the Safety Program Management Data Subsystem through the attainment of the following module objectives -- namely, to ensure that the participant has:	
1. A knowledge of the data elements in the Safety Program Management Data Subsystem and a knowledge of its uses.	
2. A knowledge of the sources of Safety Program Management Data and means of generating it.	
3. An acquaintance with standard coding conventions recommended for Safety Program Management data.	
4. An appreciation of the ways in which the generation, coding, and reporting of Safety Program Management data impact on his own functions in the Traffic Records System.	
C. Rationale for Safety Program Management Data Subsystem	
1. Purpose of subsystem to supply necessary data for management review and decision-making functions.	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Thus, data required is of a summary nature -- e.g., summaries of statistics on operational levels within State, crash incidence summaries, etc. -- data that would go into periodic reports.	
3. Such summaries could be retrieved from the system by searching the entire system data base whenever necessary. In practice, however, this could be enormously repetitious and wasteful of computer. In addition, comparison with previous years' data would require search of entire previous years' data base. Thus the separate subsystem, as a more efficient alternative.	
10.2 SAFETY PROGRAM MANAGEMENT DATA REQUIRED BY HIGHWAY SAFETY PROGRAM (30 minutes)	
Since purpose of subsystem is to supply necessary data for management review and decision-making functions, data required is of summary nature. Kinds of data can be grouped as follows: (1) operational factors; (2) crash incidence; and (3) indicators of potential relationships between operational factors and crash incidence.	
A. Categories of Data Required	
The subsystem, therefore, is most logically organized to handle three main categories of summary data:	Refer participants to Study Aid #10-2. Enumerate data categories.
• Operational Area Summaries • Crash Incidence Summary • Crash Factors	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
B. Data Elements that Should be Collected to Meet Program Requirements, by Data Category	Go through data elements, discussing them as needed.
1. Operational Area Summaries	
Includes summaries of data in each of the functional area data subsystem files (except Crash Data Subsystem)	Point out that summaries permit determination of overall background for highway traffic environment and safety program.
• Driver data summary	
• Vehicle data summary	
• Roadway data summary	
• Emergency Services data summary	
• Traffic Law enforcement data summary	
• Educational Services data summary	
2. Crash Incidence Summary	
Includes summaries of data from Crash Data Subsystem files	Point out that summaries could be used for first determination of seriousness of traffic safety problem in State
• Numbers of fatal, injury, and property damage crashes	
• Number of fatalities and injuries	
• Total property damage	
3. Crash Factors Summaries	
Includes summaries of crashes and allied factors	Point out that summaries provide preliminary factor analysis, identifying potential relationships
• Crash vs. Driver Factors	

Topic Outline	Approach/Procedures
- Crash vs. Vehicle Factors - Crash vs. Pedestrian Factors - Crash vs. Roadway Factors	which may merit more detailed analysis.
10.3 **USES OF SAFETY PROGRAM MANAGEMENT DATA (45 minutes)** Data produced by Safety Program Management Data Subsystem are used in connection with planning, administration, and evaluation functions of State Highway Safety Program.	Discuss uses of data in each management area, giving examples relevant to the system in your own State. Try to elicit examples from participants.
A. Planning - Development of Multiyear Comprehensive Plan and Annual Work Plan dependent upon formulation of State Program objectives. - This requires identification of priority safety needs of State. - This, in turn, should be based partly on information developed from data summaries produced by the Safety Program Management Data Subsystem.	Example: Program planning might include plan for reallocation of law enforcement resources, Statewide, in terms of numbers of personnel allocated to specific areas at specific times, based on data summaries.
B. Operations/Administration Data summaries from Safety Program Management Data Subsystem will aid in the following operations functions of the State Highway Safety agency:	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
1. Coordination of and assistance to State and local agencies with respect to Highway Safety Program (uniform data summaries provide rational basis for decision-making at all levels).	
2. Provision of uniform, current summary data for all users in following areas: • Driver licensing data • Vehicle Registration and Inspection • Police crash investigation data • Driver or owner vehicle crash reports • Conviction data • Emergency medical services operations Users might include State and local agencies (e.g., law enforcement, DMV); legislators (introducing or supporting safety legislation); insurance companies (determining insurability); the media and private citizens/citizens' groups (public relations).	Example: Crash vs. vehicle failure data might be used in modifying the vehicle inspection program ongoing in the State, or in implementing one.
3. Exchange of information with other States and Federal Government, as needed, including: • Summary data on drivers, vehicles, roadways, crashes • Summary data on post-crash operations • Summary data on crash incidence vs. operational and environmental factors	Example: Crash vs. operational/environmental data could be used to compare crash rates between States to determine if significant differences exist which justifies state's program or indicates need for program improvement.

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
C. Evaluation	
Data summaries produced by Safety Program Management Data Subsystem will allow evaluation of State's Highway Safety Program by permitting the following:	
1. Identification of aspects of Highway Safety Program that have been met or exceeded. 2. Identification of specific citizen, agency, and statewide benefits from program.	Example: Crash incidence summaries could provide supportive evidence of success or failure of selective countermeasure program in reducing number and/or severity of crashes.
3. Evaluation of experimental and demonstration projects to determine effectiveness as follows: • Identify workable new methods/countermeasures • Evaluate new organizational concepts • Evaluate new system developments • Review implementation of countermeasures by location and condition • Measure performance improvement in relation to planned objectives (crash/fatality reduction).	
4. Measurement of levels of Program participation by political subdivision.	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures

5. Measurement of performance improvement in relation to planned objectives of crash/fatality/injury reduction.

6. Evaluation of Program management, including the following:

   - Cost-effectiveness studies

   - Quantitative analysis of use made of various files for Program planning and evaluating, and in general, for furthering Program objectives.

10.4 SOURCES AND MEANS OF GENERATING SAFETY PROGRAM MANAGEMENT DATA (30 minutes)

A. Sources

Sources for most data in Safety Program Management Data Subsystem are within the Traffic Records System itself -- in the other subsystems.

1. Operational Area Summaries

   Sources for data in this file are the following:

   - Driver Data Subsystem
   - Vehicle Data Subsystem
   - Roadway Data Subsystem
   - Emergency Services Data Subsystem
   - Traffic Law Enforcement Data Subsystem
   - Educational Services Data Subsystem

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
2. Crash Incidence Summary	
Source for data in this file is the Crash Data Subsystem.	
3. Crash Factors Summaries	
Sources for data in this file are as follows:	
● Crash Data Subsystem	
● Driver Data Subsystem	
● Vehicle Data Subsystem	
● Roadway Data Subsystem	
B. Means of Generation	
● Summary files in Safety Program Management Subsystem would obviously be affected by each change in the files of the other (contributory) subsystems; thus the summary files must be updated periodically.	
● Whether the updating is done simultaneously with the changing of the contributory files (by special routines built into the programs), or done less frequently by means of a reporting system -- this would depend largely on whether all the subsystems utilized the same computer, or the degree of utilization of telecommunication network for data transmission.	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM
(Continued)

Topic Outline	Approach/Procedures
10.5 **CODING CONVENTIONS (40 minutes)**	
A. Recommended structure of data in Safety Program Management Data Subsystem includes three files: ● Operational Summary File ● Crash Incidence Summary File ● Crash Factors File	Refer to Reference No. 2 for Module 10 (Design Manual): Vol. II, Section 8, for thorough treatment of Safety Program Management data codings.
B. General format for coding of elements Format shown in Study Aid is suggested. Obviously, the State must determine many details, such as number of characters needed to code a given element.	
C. Discussion of Each File, with Examples of Coded Elements	10.5C is optional. Use as needed.
1. Operational Summary File	
● Driver Data Summary	
-- Total Number of Licensed Drivers	
-- Number of Drivers by Age Group	
-- Number of Drivers by Type of License	
-- Number of Drivers by Political Jurisdiction	
-- Number of Licenses Denied/ Withdrawn by Reason Category	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Vehicle Data Summary	
-- Total Vehicles Registered	
-- N[illegible]es by Make/ [illegible]	
-- Numbe[illegible] Vehicles by Body Type	
-- Number of Inspection Failures by Category	
-- Number of Inspection Failures by Category by Model Year	
• Roadway Data Summary	
-- Total Mileage by Roadway Class	
-- Total Mileage by Roadway Class by Political Jurisdiction	
-- Number of Bridges by Type of Service	
-- Number of Intersections/Interchanges by Type	
-- Number of Defects by Category	
-- Number of Repairs/Improvements by Category	
-- Number of High Accident/Violation Locations by Political Jurisdiction	
• Emergency Services Data Summary	
-- Total EMS Organizations	Point out that this group of data elements stored

MODULE 10. SAFETY PROGRAM MANGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
-- Total EMS Calls	for each political jurisdiction as a means for evaluating local programs.
-- Total Traffic Accident Related EMS Calls	
-- Total Number of Consumers Served	
-- Average EMS Response Time	
-- Number of EMS Personnel Trained in EMS Skills by Category	
-- Number of Other Personnel Trained in EMS Skills By Category	
-- Number of EMS Vehicles by Type	
● Traffic Law Enforcement Data Summary	
-- Number of Citations/Convictions by Violation Type	
-- Number of Convictions Different from Citation	
-- Number of Selective Traffic Countermeasures Action Locations by Type	
-- Number of Citations arising from Selective Countermeasures Actions by Violation Type	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
• Educational Services Data Summary	
-- Number of Public/Non-Public High Schools Offering Driver Education Courses	
-- Number of Public/Non-Public Schools Teaching Pedestrian Safety	
-- Number of Drivers Trained in Commercial Schools	
-- Number of Drivers Attending Remedial Driver Improvement Classes	
2. Crash Incidence Summary	
-- Total Fatal Crashes	Point out that data elements are stored for each political jurisdiction.
-- Total Injury Crashes	
-- Total Crashes Involving Pedestrians	
-- Total Passenger/Pedestrian Fatalities	
-- Total Vehicular/Non-Vehicular Property Damage	
-- Number of Accidents Investigated by Police	
3. Crash Factors File	Discuss order of importance of various operational and environmental factors to crash incidence as outlined in Study Aid #10-3. Seek participant comments
• Crash vs. Driver Factors	
-- Number of Fatal Crashes by Age Group	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYTEM

(Continued)

Topic Outline	Approach/Procedures
-- Number of Fatal Crashes by Condition of Driver	on defined order and identification of suggested minimum storage for each factors category.
-- Number of Fatal Crashes by Driver Education	
-- Number of Fatal Crashes by Medical Impairment History	
● Crash vs. Vehicle Factors	
-- Number of Fatal Crashes by Vehicle Make	
-- Number of Fatal Crashes by Body Type	
-- Number of Fatal Crashes by Inspection Failure	
-- Number of Fatal Crashes by Defect Noted	
● Crash vs. Pedestrian Factors	
-- Number of Pedestrian Fatal Crashes by Pedestrian Conditions	
-- Number of Pedestrian Fatal Crashes by Traffic Control Device Condition	
-- Number of Pedestrian Fatal Crashes by Weather Conditions	
-- Number of Fatal Crashes by Light Conditions	

MODULE 10. SAFETY PROGRAM MANAGEMENT DATA SUBSYSTEM

(Continued)

Topic Outline	Approach/Procedures
● Crash vs. Roadway Factors -- Number of Fatal Crashes by Roadway Class -- Number of Fatal Crashes by Intersection/Interchange Type -- Number of Fatal Crashes by Road Surface Conditions -- Number of Fatal Crashes by Visibility	
10.6 PROBLEM-SOLVING/DISCUSSION PERIOD (30 minutes) Suggested Topics: ● Use of Safety Program Management Data by Governor's Representative for Highway Safety and Office of Highway Safety, or equivalent ● Use of Safety Program Management Data by Agency Directors and Staff and Individual Program Managers ● Use of Safety Program Management Data in meeting Program information reporting requirements of NHTSA	Administer Class Problem No. 2 and discuss.

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

Schedule

	Major Topics	Time in Minutes
11.1	Introduction	05
11.2	Fundamental Concepts of Evaluation	20
11.3	Defining Program Objectives	15
11.4	Types of Evaluation	20
11.5	Design of Analyses	30
11.6	Interpretation of Findings	30

Module Objectives

Upon completion of Module 11, the participant will be able to demonstrate:

1. An understanding of certain terms and concepts fundamental to evaluative research:
    - Evaluation
    - Evaluative research
    - Values; goals
    - Independent, dependent variables
    - Value assumption; validity assumption.
2. A recognition of immediate and ultimate objectives in a Highway Safety Program.
3. A knowledge of several categories of criteria for program evaluation in the field of Traffic Safety.
4. A knowledge of the basic model for an evaluative research design, and several variations as they relate to the Highway Safety Program.
5. An understanding of reliability and validity in the interpretation of data in Highway Safety Program evaluation.

References

1. Suchman, Edward A. *Evaluative Research: Principles and Practice in Public Service and Social Action Programs*. Russell Sage Foundation. New York. 1967.

2. *Design Manual For State Traffic Records Systems*. Vols. I and II.

3. NHTSA *Highway Safety Program Manual*. Vol. 10 and Supplement 1 to Vol. 10.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Classroom Aids

11-1 Steps in the Program Evaluation Cycle
11-2 Classic Design for Research Project
11-3 One-Shot Case Study Design
11-4 Static Group Comparison Design
11-5 Four-Group Design
11-6 Longitudinal Study Design

Study Aids

11-1 General Objectives of Module 11
11-2 Steps in Program Evaluation Cycle (identical to Classroom Aid #11-1)
11-3 Series of charts showing the Classic Design for Research Project, and four variations (identical to Classroom Aids #11-2 - 11-6)
11-4 Outline of concepts relating to reliability and validity

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

Topic Outline	Approach/Procedures
11.1 INTRODUCTION (05 minutes)	
A. Title of Module 11:	
"Evaluative Research in the Highway Safety Program"	
B. Rationale for Module 11:	
• One of main purposes to which data from Traffic Records Systems are to be put is, broadly speaking, evaluative research	
• Assuming that many of course participants will be involved in some aspect of such evaluative research and, in any event, will be able to perform more satisfactorily if they have an understanding of it, Module 11 will provide a basis for acquiring this understanding.	
C. Purpose of Module 11:	
To provide the participant with an understanding of some basic concepts of evaluative research as it relates to the Highway Safety Program, including the following:	Refer to Study Aid #11-
1. An understanding of certain terms and concepts fundamental to evaluative research:	
• Evaluation	
• Evaluation research	
• Values; goals	
• Independent, dependent variables	
• Value assumption, validity assumption	

Topic Outline	Approach/Procedures
2. A recognition of immediate and ultimate objectives in a Highway Safety Program.	
3. A knowledge of several categories of criteria for program evaluation in the field of Traffic Safety.	
4. A knowledge of the basic model for an evaluative research design, and several variations of the model as they relate to the Highway Safety Program.	
5. An understanding of reliability and validity in the interpretation of data in Highway Safety Program evaluation.	
11.2 FUNDAMENTAL CONCEPTS OF EVALUATION (20 minutes)	
A. Evaluative Research vs. Evaluation (Definition)	For background, see Reference No. 1 for Module 11, pp. 7-8, 31-32.
● "Evaluative Research" utilizes systematic procedures for collecting and analyzing data which increase the likelihood of proving the value of a program, as opposed to simply asserting its value.	
● "Evaluation," as the term is often used, while it may be logical and reasonable, does not necessarily imply more than a "judgmental" approach to reaching conclusions.	
● If applied to efforts to learn more about cause and effect in relation to highway traffic safety, this distinction has obvious implications for data gathering as well as data analysis activities.	

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
B. **Values and Goals in Evaluative Research and Evaluation**	See Reference No. 1 for Module 11, pp. 32 ff.
1. Value. Any aspect of a situation, event, or object that is considered "good", "bad", "desirable", "undesirable", etc. -- the principle on which we can base our priorities.	
2. Evaluation process. The process can be thought of as circular, starting with value formation and coming back to value formation or reassessment at end of cycle: ● Determination of value ● Goal or objective identification ● Establishment of criteria for Goal Measurement ● Identification of Goal-directed activity (Program) ● Implementation of Program ● Evaluation of Program ● Reassessment of original value	Show Classroom Aid No. 11-1. Refer to Study Aid #11-2.
3. Evaluation Process in relation to Highway Safety Program. Examples of each step in process: ● Determination of Value: - It is a public good to prevent "problem drivers" from menacing	Present example for each step in evaluation process; try to elicit other examples from participants.

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
other segments of the highway traffic environment. • Set Goals: - Identify problem drivers - Restrict driving activity of problem drivers - Re-educate/rehabilitate problem drivers • Establish Criteria: - Describe magnitude of problem driver menace (determine numbers of "problem drivers" involved in crashes in relation to overall crash statistics; numbers of "problem drivers" involved in traffic violations in relation to overall traffic violation statistics). • Identify Goal-directed Activities: Plan program involving activities such as the following: - Data collection and analysis - Driver license limitation or suspension - Driver training and education program - Alcohol/drug-user rehabilitation program	

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
● Implement Program: – Carry out various aspects of program through the various agencies. ● Evaluate Program: – Use established criteria to measure degree of success of goal-directed programs. ● Reassess Value: – Determine whether or not the program results were worthwhile or cost-effective. For example, it might be concluded (hypothetical) that although the value of reducing the number of accidents/violations involving "problem drivers" remains crucial, the concept of "problem driver" needs modification. Perhaps the emphasis might be shifted to the alcohol/drug user, after concluding that the expenditures on the tasks of identifying and rehabilitating other types of problem drivers did not account for a commensurate reduction in accidents.	
C. Independent and Dependent Variables 1. If we view the evaluation of a program as a study of change, we can look at: ● the program to be evaluated as the causal or independent variable;	See Reference No. 1 for Module 11, pp. 37-39.

Topic Outline	Approach/Procedures
• the desired change as the effect or the dependent variable. 2. If program planning is done in this way, we are forced to state both: • the desired results of the program (the objectives); • what in the program that can be expected to bring about these results.	
D. Major Considerations in Defining Objectives 1. Content of objective. What do we wish to change? (knowledge? attitudes? behavior?) 2. Target population. Do we wish to change whole communities? Specific individuals? 3. Time-frame. Do we expect immediate effect? Short-term or long-term program? 4. Unitary or multiple objectives. Do we want a single change, or a series of changes? Are the changes the same for the whole population, or different for different groups? 5. Desired magnitude. Do we expect widespread or concentrated results? 6. Approach to attainment of objectives. What mechanisms will be, or can be, used to produce results?	See Reference No. 1 for Module 11, pp. 39 ff. Try to elicit examples from participants relative to the Highway Safety Program as it is developing in your State.
E. Value Assumption and Validity Assumption Assumptions that underlie program objectives may be classified as value assumptions or validity assumptions. 1. Value assumptions. Assumptions about the the values on which program objectives are based, e.g.:	See Reference No. 1 for Module 11, pp. 42 ff.

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
• loss of human life, and the number of disabling injuries must be reduced.	Select other examples of particular interest in your State for use instead of or in addition to these examples.
• vehicle and other property damage and economic losses to injured persons must be reduced	
• highway traffic should be protected from careless drivers and "problem drivers".	
2. Validity Assumptions. Assumptions more specifically related to program objectives, e.g.:	
• We can identify many "problem drivers" through the help of a number of agencies and devices including integrated State Traffic Records System.	
• We can prevent "problem drivers" from causing many crashes by restricting their driving activities and enrolling them in driver rehabilitation programs.	
11.3 DEFINING PROGRAM OBJECTIVES (15 minutes)	
Defining the problem -- in the context of the type of evaluative research we are discussing -- is different from problem definition in basic research.	
Researchers must remain alert to utility of results; thus problems or hypotheses may be stated largely in terms of goals or objectives of programs/services being evaluated.	
Thus, definition of goals/objectives is crucial.	

MODULE 11. EVALUATIVE RESEARCH IN THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
Program goals may be classified in terms of their proximity to the central purpose of program: ● immediate objectives ● intermediate objectives ● ultimate objectives or goals	See Reference No. 1 for Module 11, pp. 51 ff.
Discussion of examples:	
A. Ultimate Goals	
● Reduction of crashes involving "problem drivers"; ● Rehabilitation of alcohol/drug-using and other problem drivers.	Discuss examples of three types of goals that are relevant to your State program. Try to elicit examples from participants.
B. Intermediate Objectives	
● Development of effective rehabilitation programs ● Restriction of driving activity of "problem drivers" ● Development of workable systems of restrictions and sanctions ● Identification of alcohol/drug-using "problem drivers" ● Identification of drivers with emotional or other types of problems ● Identification of specific types of problems affecting driver behavior	

Topic Outline	Approach/Procedures
• Identification of "problem drivers" in general.	
C. Immediate Objectives	
• Determine number and percentage of crashes involving "problem drivers"	
• Determine numbers of problem drivers in different categories (alcohol/drug-using, emotional problems or other)	
• Identify various possible criteria for ultimate goals	
• Identify existing programs or aspects of ongoing programs that can contribute to or form a part of new program.	
11.4 TYPES OF EVALUATION (20 minutes)	
Five categories of criteria for program evaluation:	See Reference No. 1 for Module 11, pp. 61 ff.
• effort	
• performance	
• adequacy of performance	
• efficiency	
• process	
A. Effort	
1. This type of evaluation requires measurement of quantity and quality of activity that takes place	Discuss examples of all types of evaluation; elicit examples from participants.

Topic Outline	Approach/Procedures
• It assumes that a given activity is a valid means of reaching goal.	
• It is easiest type of evaluation.	
2. Example: The criterion that a certain minimal number of individuals identified as "problem drivers" be processed through a rehabilitation program, and "exposed" to all parts of it (this criterion assumes the validity of the program).	
B. Performance	
1. This type of evaluation measures results of the activity. Thus, it requires clear statement of objectives.	
2. Example: Reduction of the number of crashes involving "problem drivers" of a specific category over a specified period of time, for a given area in a State, or for a given type of highway environment. Obviously, use of this criterion requires measurement of current number of crashes involving this type of problem driver for a typical time period of the specified length.	Mention implications for the Traffic Records System as whole.
C. Adequacy of Performance	
1. This criterion requires measurement of degree to which performance is adequate to total need. "Adequacy" as used here, is relative.	
2. Example: Reduction of crashes involving drivers with alcohol problems would have to meet a predetermined goal, e.g., 50% of the typical number for a given period.	

Topic Outline	Approach/Procedures
Otherwise, perhaps the program designed to bring about the reduction could not be considered worthwhile.	
D. **Efficiency**	
1. This criterion requires measurement of the results in relation to the expenditure of time, money, personnel, public convenience, etc. in order to achieve results.	
2. Example: If alchohol/drug-using problem drivers are crucial factor in determining number of fatal crashes, then it is easier to justify expenditure of more resources, more inconvenience to public, more time on programs in attempting to change their behavior. How big an expenditure, how much inconvenience is acceptable must be determined, together with specific approaches for cutting time and expenditures.	
E. **Process**	
1. This criterion examines the program to learn how and why it works or does not work. Determining why a program is not working may, by uncovering the need for a minor modification, save an entire program of great potential value.	
2. Example: A rehabilitation program for drivers with alcohol-related problems might appear a failure. However, an analysis of the total process applied in the program might reveal one or more factors of potential importance, e.g., that initial enrollment procedures for collecting data from participants tend to arouse their	

Topic Outline	Approach/Procedures
suspicion and/or hostility and to shape a negative attitude from the beginning of their participation.	
11.5 DESIGN OF ANALYSES (30 minutes)	
A. The Target Population is Identified This is the group of persons for whom a given program is being designed and among whom it will be used. Example: In the context of the Highway Safety Program, target population might be any group within the total population of the nation, State, or county or municipality such as: ● the whole body of licensed drivers in the State ● a group within the above group identified as "problem drivers" ● drivers whose license have been suspended or revoked ● teenagers about to enroll in initial driver training ● non-school age adults enrolling in initial driver training ● the entire public (e.g., as pedestrians)	See Reference No. 1 for Module 11, pp. 91 ff. As each step is discussed, bring up as many examples as possible that relate directly to the program or specific program problems in your State.
B. Samples In a research project, for experimental purposes one or more samples of the target population are used for testing a given program.	

Topic Outline	Approach/Procedures
Samples are identified in various ways, depending on the needs of a given project, but they are always representative of the whole composition of the target population.	
Representativeness and size of samples are both affected by the amount of breakdown analysis required - how many subgroupings need to be accounted for in terms of their impact on the total.	
C. Classic Design for Experimental Research Project	
Classic design is roughly as follows:	
1. Sample of target population identified for test purposes.	Show Classroom Aid #11-2.
2. Sample divided into two groups:	
• an experimental group	Refer to Study Aid #11-3
• a control group	
3. The two groups are tested, or observed, or measured in order to determine:	
• the point from which some change is to be measured	
• the equivalency of the two groups (that they both represent the same composition of population)	
4. The experimental group is exposed to the program being evaluated, while the control group is not exposed. The two groups are insulated from each other during this time.	

Topic Outline	Approach/Procedures
5. The two groups are again tested or observed or measured in order to determine what change (if any) has been effected by program.	
6. The results of the measurement of the two groups are compared and the differences are noted.	
Application: This design might be used to measure the effects of rehabilitation program for drivers with violations who are identified as having alcohol problems. Experimental group would be exposed to program; control group would be given standard treatment -- fine, incarceration, or whatever. Selection of experimental group would have to be on voluntary basis, and thus might have a built-in bias (by virtue of having selected itself).	
D. Variation 1 of Classic Research Design: One-Shot case study	
1. In this variation, there is only one group (there is no control group), and the group is measured or observed only after exposure to the experimental program.	Show Classroom Aid #11-3.
This is considered the weakest design, but is commonest in evaluating many types of public service programs.	
2. Application: This design might be used in evaluating any number of programs that must be tried out on the entire public to be tried at all -- for example, in a program to reduce the number of deaths and injuries to small children resulting from absence of restraints at times of crashes.	

Topic Outline	Approach/Procedures
E. Variation 2: Static Group Comparison	
1. In this variation, two groups are used, one having been exposed to program, and one having not. If the exposed group shows a higher incidence of desired condition or behavior, it is assumed to be attributable to program.	Show Classroom Aid #11-4
Disadvantage: Design does not permit any measure of equivalency of two groups before the program is administered.	
2. Application: This design might be used to evaluate an innovation in a remedial driver training program in which measurement of either group would be infeasible before exposure to program, but could be carried out afterwards by means of follow-up studies.	
F. Variation 3: Four-Group Study Design	
1. In classic research design the possibility of contamination of either group or both may exist if process of making first observation or measurement (before exposure to program) could possibly sensitize group to program and thus alter the effect program might be expected to have when implemented.	
This problem can be overcome by four-group design in which there are the following steps:	Show Classroom Aid #11-5
• First group is measured, then exposed to program, then measured again • Second (control) group is measured a first time and again a second time without exposure	

MODULE 11. EVALUATIVE RESEARCH OF THE HIGHWAY SAFETY PROGRAM
(Continued)

Topic Outline	Approach/Procedures
• Third group is exposed to program, then measured (no pre-exposure measurement)	
• Fourth (control) group is measured only once, and with no exposure to program.	
2. Application: This design might be used where it is especially important to compensate for contamination from initial measurement process. For example, the initial observation of candidates for an experimental driver rehabilitation program -- if it attempted to gather information for an attitude profile -- might sensitize candidates to specific areas in program itself.	
G. Variation 4: Longitudinal Study Design	
1. Use of this design allows one to compare the effectiveness of a program when administered more than once over a period of time.	
It consists of two or more measurement-exposure-measurement cycles, followed by measurement. Thus, it permits multiple checks on progress toward ultimate objectives.	Show Classroom Aid #11-6
Main weakness: It allows contamination of group in any given measurement-exposure-measurement cycle, resulting from previous exposures.	
Advantage: It accommodates on-going and long-term studies.	

Topic Outline	Approach/Procedures
2. Application: This design is extremely valuable in measuring long-term effects of on-going programs of all types. Allows measurement of effects of various modifications as they are made, from time to time.	
H. Three Main Conditions of Evaluative Research	See Reference No. 1 for Module 11, pp. 102 ff.
Three main conditions of experimental projects: • Sample equivalent experimental and control groups • Isolate and control independent program variable • Define and measure criterion of effect -- dependent variable	
Relation of these conditions to evaluative research:	
1. Sample -- equivalent experimental and control groups. Sample should be representative of the target population; and experimental and control groups should be equivalent. • In evaluation of public service program (e.g., a problem driver rehabilitation program), we cannot offer program to some only and incarcerate the rest. • If we allow the identified sample of problem drivers to choose for themselves between rehabilitation program	

MODULE 11. EVALUATIVE RESEARCH OF THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
and fine or incarceration, a bias will result from their choice.	
• Equivalency problem might be solved by instituting program for whole sample, but varying the content or approaches used for the two different groups, selected randomly.	
2. Isolation and control of Independent Program Variable	
It is necessary to describe, in great detail, program being evaluated so that true causes of change can be identified.	
Example: In a problem driver rehabilitation program, one might want to consider all possible causative factors in measuring success or failure, such as the following:	
• Level of competency, degree of sensitivity, of program staff	
• Specific procedures of program	
• Sequence of procedures	
• "Entry" attitude of participants	
3. Definition and Measurement using Criterion of Effect -- Dependent Variable.	
The more specific the criterion we identify for success of program, the more meaningful the results of our attempt at evaluation.	
This may be difficult in context of Highway Safety Program, but it is as important as is the Program's effectiveness.	

MODULE 11. EVALUATIVE RESEARCH OF THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
11.6 INTERPRETATION OF FINDINGS (30 minutes)	
A. Reliability and Validity in Evaluation of Programs	See Reference No. 1 for Module 11, pp. 115 ff.
In general, evaluation of public service programs tends to be deficient in its attention to reliability and validity.	Refer to Study Aid #11-4
1. Reliability - refers to the degree to which a given measure will give consistent results upon repeated application. For example: In evaluating a driver training program can one assume that the scores achieved on the criterion test (performance or written or both) will remain within a specified range whenever the program is administered to a given population?	Elicit examples from participants as way of relating theory directly to their experience, and as check on their individual understanding of each concept.
2. Validity - refers to the significance of an evaluative measure in relation to the purpose for which it was designed. For example: In the driver training program, is the test that is used as a criterion measure in fact an appropriate criterion for determining the success of the program? Or, to what extent is the written exam in a drivers licensing program an accurate measure of an applicant's acquisition of the cognitive skills needed for safe driving?	

MODULE 11. EVALUATIVE RESEARCH OF THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
B. Sources of Unreliability in a Program	
1. Subject. Persons whose performance is being measured vary in mood, level of fatigue, degree of motivation, etc.	
Example: This might pertain to a person being tested in a driver training program, or one who is providing data to a law enforcement official, or to EMS personnel.	
2. Observer. Factors similar to those operating with subject are also operative here. They may have amplified effect of influencing both subject's reactions and observer's interpretations.	
Example: The observer could be any person conducting a test or interview, or gathering data in any of the programs.	
3. Situation. Conditions of the test or measurement, of whatever kind, may affect the results in a way that will not be generally the case for the whole population when program is implemented.	
Example: It is doubtful that the sense of urgency felt by EMS personnel at the scene of a crash could ever be adequately simulated for test purposes.	
4. Instrument. Characteristics of the test, interview, questionnaire or whatever is being used to collect data for evaluation, may affect the results.	
Example: Questions on a driver licensing test might be ambiguous and generate a random variation of responses from applicants.	

Topic Outline	Approach/Procedures
5. Processing. Coding or mechanical errors in the gathering or manipulation of data can lead to unreliability. C. Types of Validity Those who evaluate programs must be concerned with primarily three types of validity in making their measurements. 1. Face validity. Just as the term suggests, this is the validity that is on the surface, or appears "obvious". Example: The criterion selected to test a problem-driver rehabiliation program might include an attitude survey sequence administered at the end of a course and several times thereafter at specified intervals. If the behavior change being measured appears in every way to indicate a corresponding change in attitude, then this measure might be said to have face validity 2. Correlational validity. This is validity backed by two different measures which produce similar results, or results that correlate. Example: The attitude survey used to measure success in the example above might be shown to correlate highly with a second criterion -- a general lowering of the recidivism rate among problem drivers exposed to the program, as compared with others (or as compared with a control group exposed to a different program).	

Topic Outline	Approach/Procedures
3. Predictive validity. This refers to the degree of validity with which one can make predictions about future events (e.g., behavior) on the basis of present indicators. Example: Can we predict with any confidence -- given a certain average performance level at the conclusion of a remedial drivers training program -- that the rate of recidivism three years hence will be significantly lower among participants than among participants in a different remedial program (or alternative to a program)? D. Areas of Invalidity Bias may enter an evaluation at any stage; thus the researcher must be alert to this possibility throughout an evaluative project. 1. Propositional. Incorrect theoretical assumptions may be made, which may lead to "biased" objectives. Example: If we assume that we can reduce the seriousness of most injuries in motor vehicle crashes by making a certain specified change in the vehicle inspection program, when this is not in fact the case, any ultimate or intermediate objectives relating to such a program change will be invalid. 2. Measurement instrument. Measures may be made that are invalid because of the measurement instrument itself (e.g., the questionnaire, interview, test). Even if the criterion for success is valid, the instrument may contain a bias which invalidates the findings.	

MODULE 11. EVALUATE RESEARCH OF THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
Example: In a problem-driver rehabilitation program, a particular behavior change may be identified as a valid indicator of basic attitude change, but the instrument for measuring the behavior change might be faulty -- e.g., an insufficient number of interviews over too short a time span may have been scheduled.	
3. Sampling. Sample chosen for program evaluation may not be truly representative of population for which the program is designed.	
Example: If experimental and control groups for a driver training program are chosen from among volunteers, the fact that they were volunteers might bias the results of the study.	
4. Observer or evaluator. Interviewer or observer, or whoever -- at the point of data collection -- must exercise judgment in translating observations into data, may introduce a consistent bias.	
Example: Interviewer in a problem-driver rehabilitation program may be influenced by preconceptions about drivers with alcohol problems.	
5. Subject. Validity may be decreased by irrelevant information or deliberate misinformation from subjects in study.	
Example: Participants in any program may be motivated by a desire to impress evaluator rather than to inform him.	

MODULE 11. EVALUATE RESEARCH OF THE HIGHWAY SAFETY PROGRAM

(Continued)

Topic Outline	Approach/Procedures
6. Administration. Errors may be introduced into any program as a result of conditions under which data is collected. For example, the auspices of the study, the circumstances under which data is collected, the season of year, time of day, and so on, must all be considered.	
7. Analysis. Those who analyze and interpret data being collected -- the analysts -- have crucial responsibility, in any of the programs, in determing whether or not the results are to be valid. Introduction of bias by the analyst can occur in many ways, including the following: ● deliberate bias to prove a point of view ● personal commitment to a program that may be invalid, (with unintentional bias) ● inappropriate attempts to generalize results of a given program to other programs.	

MODULE 12. RECAPITULATION AND CONCLUSION

Schedule

	Major Topics	Time in Minutes
12.1	Introduction	05
12.2	Recapitulation of Main Topics	25
12.3	Questions and Answers	90

Module Objective

Upon completion of Module 12, the participant will be able to demonstrate:

- An appreciation of his own role in an integrated Traffic Records system, and in the Highway Safety Program, in general.

References

1. NHTSA. Highway Safety Program Manual. Volumes 0-18, with supplements.

2. Design Manual for State Traffic Records System. Volumes I and II.

3. Suchman, Edward A. Evaluative Research; Principles and Practice in Public Service and Social Action Programs. Russell Sage Foundation. New York. 1967.

Facilities, Equipment and Materials

1. Classroom
2. Chalkboard
3. Overhead projector
4. Screen

Study Aids

12-1	General Objective for Module 12
12-2	Outline of main topics in course, with provision for participant's notes.

MODULE 12. RECAPITULATION AND CONCLUSION

Topic Outline	Approach/Procedures
12.1 INTRODUCTION (05 minutes)	
A. Title of Module 12: "Recapitulation and Conclusion"	
B. Purposes and Procedures of Module 12:	
1. Purpose. The purposes of a recapitulation and conclusion are fairly obvious, particularly when as much ground has been covered as is the case here. They are to review the more important points made in the course, and to put all parts in perspective.	
2. General objective. Module 12 seeks to accomplish an additional objective -- namely, to increase the participant's appreciation of his own role in an integrated Traffic Records System, and in the Highway Safety Program, in general.	Refer to Study Aid #12-1
3. Procedures.	
● To a great extent, the success of the Highway Safety Program in this (participants') State depends on participants' understanding of their individual responsibilities in relation to the program.	
● As course material is reviewed, participants should try to relate their individual responsibilities to each point covered in the recapitulation. At least, they should keep their own responsibilities in mind as these points are being covered.	

MODULE 12. RECAPITULATION AND CONCLUSION

(Continued)

Topic Outline	Approach/Procedures
• Participants should note down any and all questions they have, either about the points themselves as they are discussed, or about their own responsibilities in relation to what is being discussed.	
• To help participants in accomplishing this, the section on Module 12 in the Study Guide provides (1) an outline of the main points covered by the recapitulation, and (2) space for their notes or questions in an adjacent column.	
• The recapitulation is to be kept as brief as possible, and the remainder of the period will be devoted to an open discussion/question and answer period, during which all questions noted during the recapitulation should be brought up for discussion.	
12.2 RECAPITULATION OF MAIN TOPICS (25 minutes)	
Module 1. Traffic Records in Relation to Highway Safety Program	Refer participants to Study Aid #12-2 and encourage them to use it as explained in 12.1 (above).
A. Purpose of Highway Safety Program:	
"to reduce traffic crashes, and the deaths, injuries, and property damage resulting from them".	
B. Program Standard Areas include:	
• Program Administration and Evaluation, which includes Traffic Records Systems	
• Traffic Laws and Regulations	
• Vehicle Requirements	

Topic Outline	Approach/Procedures
• Traffic Safety Education	
• Driver Licensing	
• Police Traffic Services	
• Traffic Courts and Adjudication Systems	
• Emergency Medical Services	
C. Traffic Records System:	
Purpose is to assure that appropriate data on traffic crashes, drivers, motor vehicles, roadways, and Program functions are available to State and local planners and operators of motor vehicle transportation systems.	
D. People who Operate Traffic Records System	
• Development functions	
• Coordination functions	
• Planning functions	
Module 2. Concepts of an Integrated Traffic Records System	
A. Content of Traffic Records	
• Entities	
- Driver	
- Vehicle	
- Roadway	
- Pedestrian	

MODULE 12. RECAPITULATION AND CONCLUSION

(Continued)

Topic Outline	Approach/Procedures
● Events	
- Crashes (fatalities, injuries, property damage)	
- Non-crash traffic violations	
● Countermeasure data	
- Emergency Medical Services	
- Law Enforcement and Adjudication	
- Educational Services	
B. User Requirements for Highway Traffic Safety Data:	
Examples of needs or uses of traffic safety data by State and National agencies and various private agencies.	
C. Organization of an Integrated Traffic Records System	
● Objectives	
● Characteristics of Integrated System	
● Extent of Automation and Centralization Required	
● Data Base Subsystems in an Integrated TRS	
● Functions of a Traffic Records Processing System	
● System Support Functions	

MODULE 12. RECAPITULATION AND CONCLUSION

(Continued)

Topic Outline	Approach/Procedures
Module 3-10: Explanation of Format	
A. General format followed in each module that deals with a separate sub-system was discussion of topics as follows: • Data required by Highway Safety Program for a given sub-system • Uses of these Data relating to each Program area • Sources and Means of Collecting Data • Coding Conventions • Specific illustrations of requirements and uses given by guest speakers	
B. There were eight modules cooresponding to the eight subsystems recommended for an integrated traffic records system: • Module 3 - Crash Data Subsystem • Module 4 - Driver Data Subsystem • Module 5 - Vehicle Data Subsystem • Module 6 - Roadway Data Subsystem • Module 7 - Emergency Services Subsystem • Module 8 - Traffic Law Enforcement and Adjudication Data Subsystem • Module 9 - Educational Services Sub-system • Module 10 - Safety Program Management Data Subsystem	Mention points of emphasis, important facts brought out by guest speakers, or other points in connection with each module that will stimulate recall of module material presented earlier.

MODULE 12. RECAPITULATION AND CONCLUSION

(Continued)

Topic Outline	Approach/Procedures
Module 11. Evaluative Research in the Highway Safety Program	
A. Fundamental Concepts of Evaluation	
• evaluation	
• evaluative research	
• values; goals	
• independent, dependent variables	
• value assumption; validity assumption	
B. Defining Program goals and objectives	
• Ultimate objectives	
• Intermediate objectives	
• Immediate objectives	
C. Five categories of criteria for evaluation:	
• effort	
• performance	
• adequacy of performance	
• efficiency	
• process	
D. Steps in Design of Analyses	
• Target population; samples	
• Classic Research design and four variations	
• Three conditions of evaluative research	

MODULE 12. RECAPITULATION AND CONCLUSION

(Continued)

Topic Outline	Approach/Procedures
E. Interpretation of Findings	
• Reliability and Validity	
• Sources of Unreliability	
• Types of Validity	
• Areas of Invalidity	
12.3 QUESTIONS AND ANSWERS (90 minutes)	
Open discussion of any questions that remain unanswered, or problems for which participants feel the need of further clarification or the need to air their views.	
During first part of this period (e.g., the first half-hour), each participant should be limited to two minutes, in order to give everyone an opportunity to raise his most pressing questions or problems, and thus arrive at a proper "balance" of material for the discussion that follows.	
During this first part of the period, the instructor or an assistant should make notes of the questions raised -- particularly those that cannot be answered briefly and on the spot.	
During the remainder of the discussion period, the instructor will be guided by his notes.	

CLASSROOM AIDS

HIGHWAY SAFETY PROGRAM

SUBJECT AREAS

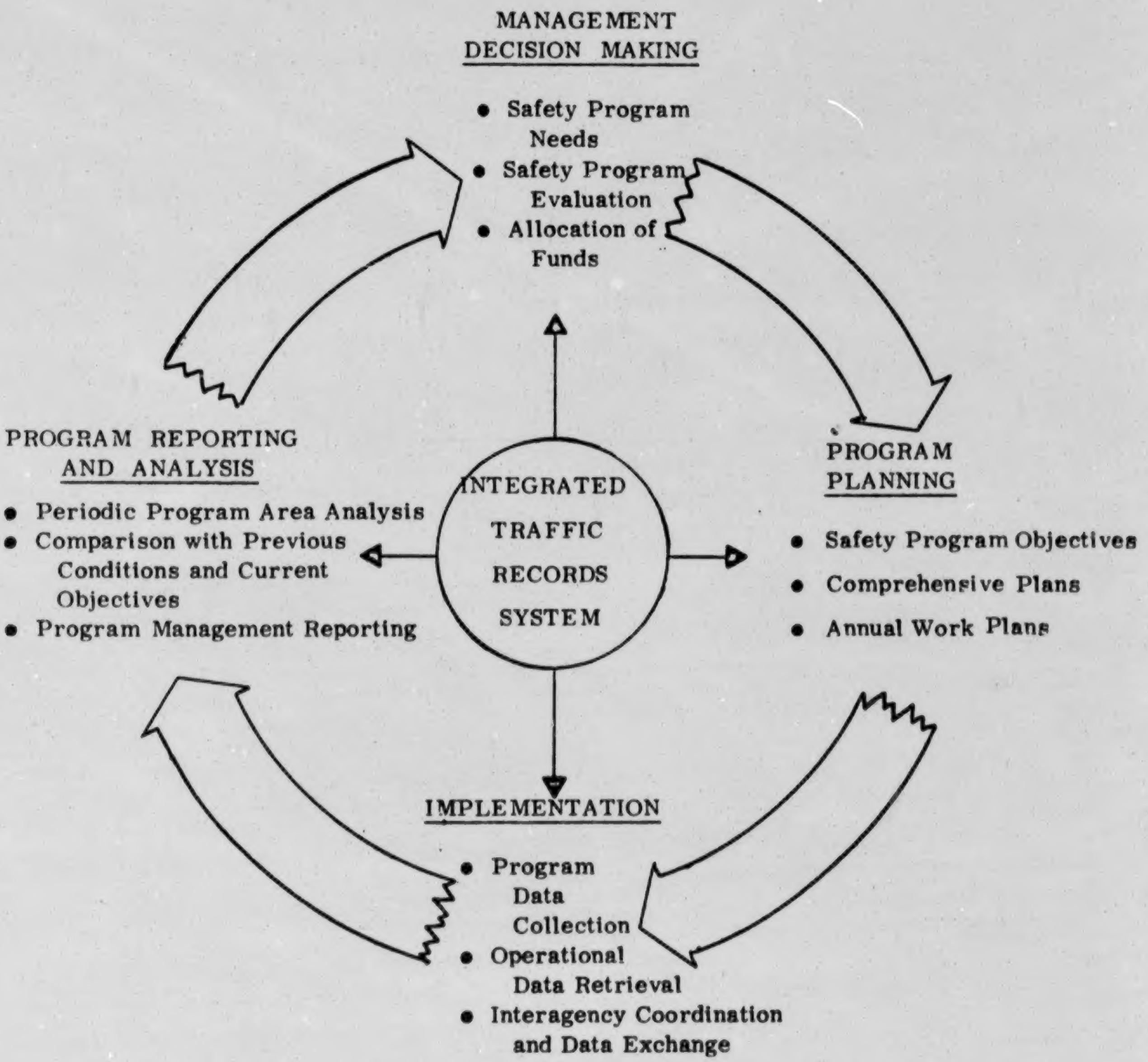
- PROGRAM ADMINISTRATION AND EVALUATION
- TRAFFIC LAWS AND REGULATIONS
- VEHICLE REQUIREMENTS
- TRAFFIC SAFETY EDUCATION
- DRIVER LICENSING
- POLICE TRAFFIC SERVICES
- TRAFFIC COURTS AND ADJUDICATION SYSTEMS
- EMERGENCY MEDICAL SERVICES

PROGRAM MANUAL VOLUMES
AS RELATED TO PROGRAM SUBJECT AREAS

	Program Admin. & Evaluation	Traffic Laws & Regs.	Vehicle Reqmnts.	Traffic Safety Education	Driver Licens-ing	Police Traffic Servcs.	Traffic Courts & Adjudic. Systems	EMS
0. Planning and Administration	X							
1. Periodic Motor Vehicle Inspection			X					
2. Motor Vehicle Registration			X					
3. Motorcycle Safety		X	X	X				
4. Driver Education				X				
5. Driver Licensing					X			
6. Codes and Laws		X						
7. Traffic Courts							X	
8. Alcohol in Relation to Highway Safety		X						
9. Identification/Surveillance of Accident Locations								
10. Traffic Records	X							

PROGRAM MANUAL VOLUMES
AS RELATED TO PROGRAM SUBJECT AREAS

	Program Admin. & Evaluation	Traffic Laws & Regs.	Vehicle Reqmnts.	Traffic Safety Education	Driver Licens-ing	Police Traffic Servcs.	Traffic Courts & Adjudic. Systems	EMS
11. Emergency Medical Services								X
12. Highway Design, Construction, Maintenance								
13. Traffic Engineering Services								
14. Pedestrian Safety				X				
15. Police Traffic Services						X		
16. Debris Hazard Control and Cleanup						X		
17. Pupil Transportation Safety		X	X	X				
18. Accident Investigation and Reporting		X				X		



MANAGEMENT DECISION MAKING

- Safety Program Needs
- Safety Program Evaluation
- Allocation of Funds

PROGRAM PLANNING

- Safety Program Objectives
- Comprehensive Plans
- Annual Work Plans

IMPLEMENTATION

- Program Data Collection
- Operational Data Retrieval
- Interagency Coordination and Data Exchange

PROGRAM REPORTING AND ANALYSIS

- Periodic Program Area Analysis
- Comparison with Previous Conditions and Current Objectives
- Program Management Reporting

INTEGRATED TRAFFIC RECORDS SYSTEM

THE ROLE OF TRAFFIC RECORDS
IN THE
HIGHWAY SAFETY PROGRAM MANAGEMENT PROCESS
A CONCEPTUAL VIEW

TRAFFIC SAFETY DATA:

ITS CONTRIBUTION TO THE HIGHWAY SAFETY PROGRAM

IT PROVIDES INFORMATION ABOUT:

- CURRENT MAGNITUDE AND NATURE OF HIGHWAY TRAFFIC ACCIDENT PROBLEM
- SHORT-TERM CHANGES AND LONG-TERM TRENDS IN MAGNITUDE AND NATURE OF PROBLEM

IT ALLOWS THE PROGRAM TO:

- DETERMINE
  - HIGH-FREQUENCY CRASH LOCATIONS
  - HEALTH, BEHAVORIAL, RELATED FACTORS INVOLVED
- DESIGN ACCIDENT, FATALITY, INJURY COUNTERMEASURES
- EVALUATE COST-EFFECTIVENESS OF COUNTERMEASURES
- PLAN AND IMPLEMENT OPERATIONAL PROGRAMS

(CLASSROOM AID #2-1)

ELEMENTS OF DATA COMPRISING TRAFFIC RECORDS

- ENTITIES
  - DRIVERS
  - VEHICLES
  - ROADWAYS

- EVENTS
  - CRASHES RESULTING IN FATALITIES
  - CRASHES RESULTING IN INJURIES
  - CRASHES RESULTING IN PROPERTY DAMAGE
  - NON-CRASH TRAFFIC VIOLATIONS

- CRASH COUNTERMEASURE INFORMATION
  - EMERGENCY MEDICAL AND OTHER SERVICES
  - LAW ENFORCEMENT AND ADJUDICATION
  - EDUCATIONAL SERVICES

NOTE: Classroom Aids #2-2 and 2-3 are contained as Attachments 1 and 2 to Study Aid #2-5.

Classroom Aids #2-5 and 2-6 are identifical to Study Aids #2-9 and 2-10.

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	DRIVER DATA	VEHICLE DATA	ROADWAY ENVIRONMENT DATA	ACCIDENT DATA	EMERGENCY SERVICES DATA	TRAFFIC LAW ENFORCEMENT & ADJUDICATION DATA	EDUCATIONAL SERVICES DATA
DRIVER DATA	▨	*License Plate Number(s)*	*N/A*	*Accident Case Number(s)*	*N/A*	*Violation Citation Numbers (Convictions Only)*	*Educational Organization Name(s)*
VEHICLE DATA	*License Plate Number*	▨	*N/A*	*Accident Case Number(s)*	*License Plate Number*	*N/A*	*License Plate Number*
ROADWAY ENVIRONMENT DATA	*N/A*	*N/A*	▨	*Accident Case Number(s)*	*N/A*	*Violation Citation Number(s)*	*N/A*
ACCIDENT DATA	*Driver Name(s)* *License No.(s)*	*License Plate Number(s)* *VIN(s)*	*Roadway Location Identifier*	▨	*Emergency Organization Name(s)*	*Violation Citation Number(s)*	*Driver Name(s)* *License No.(s)* *License Plate Number(s)*
EMERGENCY SERVICES DATA	*Patient (Driver) Name(s)* *Emer. Driver Name(s)* *License No.(s)*	*Emer. Vehicle Plate Number(s)* *VIN(s)*	*N/A*	*Accident Case Number*	▨	*N/A*	*N/A*
TRAFFIC LAW ENFORCEMENT & ADJUDICATION DATA	*Driver Name* *License No.* *(Convictions Only)*	*Vehicle License Plate Number* *VIN* *(Convictions Only)*	*Roadway Location Identifier*	*Accident Case Number*	*N/A*	▨	*N/A*
EDUCATIONAL SERVICES DATA	*Driver Instr. Name(s)* *License No.(s)*	*Vehicle Plate Number(s)* *VIN(s)*	*N/A*		*N/A*	*N/A*	▨

INTEGRATED TRAFFIC RECORDS SYSTEM DATA SUBSYSTEM LINKAGE

(CLASSROOM AID #3-1)

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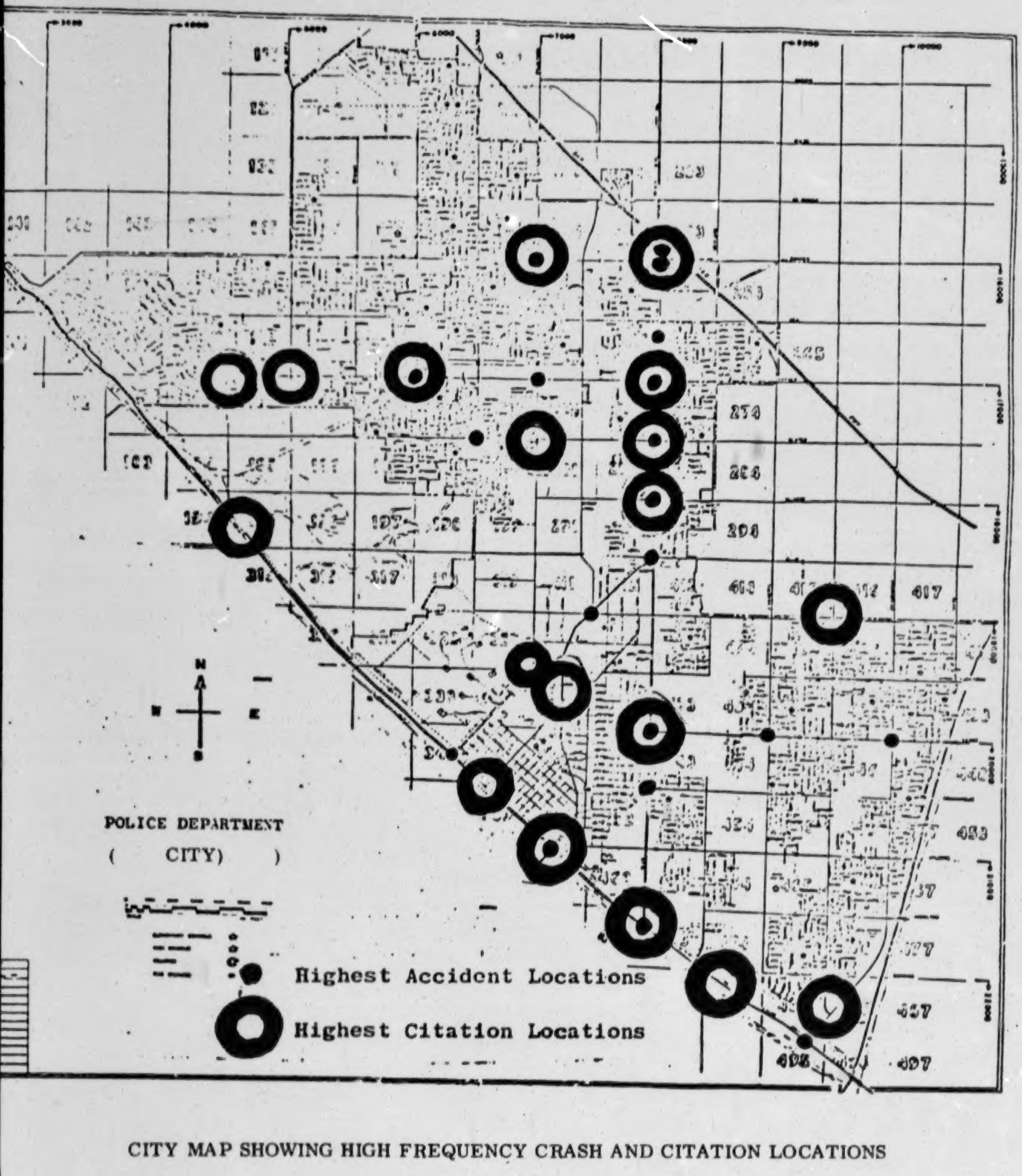

N
W
E
S
POLICE DEPARTMENT
(CITY))
Highest Accident Locations
Highest Citation Locations

CITY MAP SHOWING HIGH FREQUENCY CRASH AND CITATION LOCATIONS

Hypothetical Report
Produced by Traffic
Records System

```
XXX-XXX             CRASH LOCATION FREQUENCY BY MUNICIPALITY

DATE PREPARED          STATE OF ------------------            PERIOD                PAGE

MUNICIPALITY XXXXXXXXXXXXXXXXXXXX

ROUTE OR STREET                        4Q 70    3 Q 70    2 Q 70    1 Q 70    TOTAL

                     FATAL             XXXX     XXXX      XXXX      XXXX      XXXX
XXXXXXXXXXXXXXXXXXXX INJURY            XXXX
                     PROPERTY          XXXX
                     TOTALS            XXXX

       MUNICIPALITY TOTALS             XXXXX


       COUNTY TOTALS                   XXXXX
```

Hypothetical Traffic Records System Report relating driver education to crash involvement

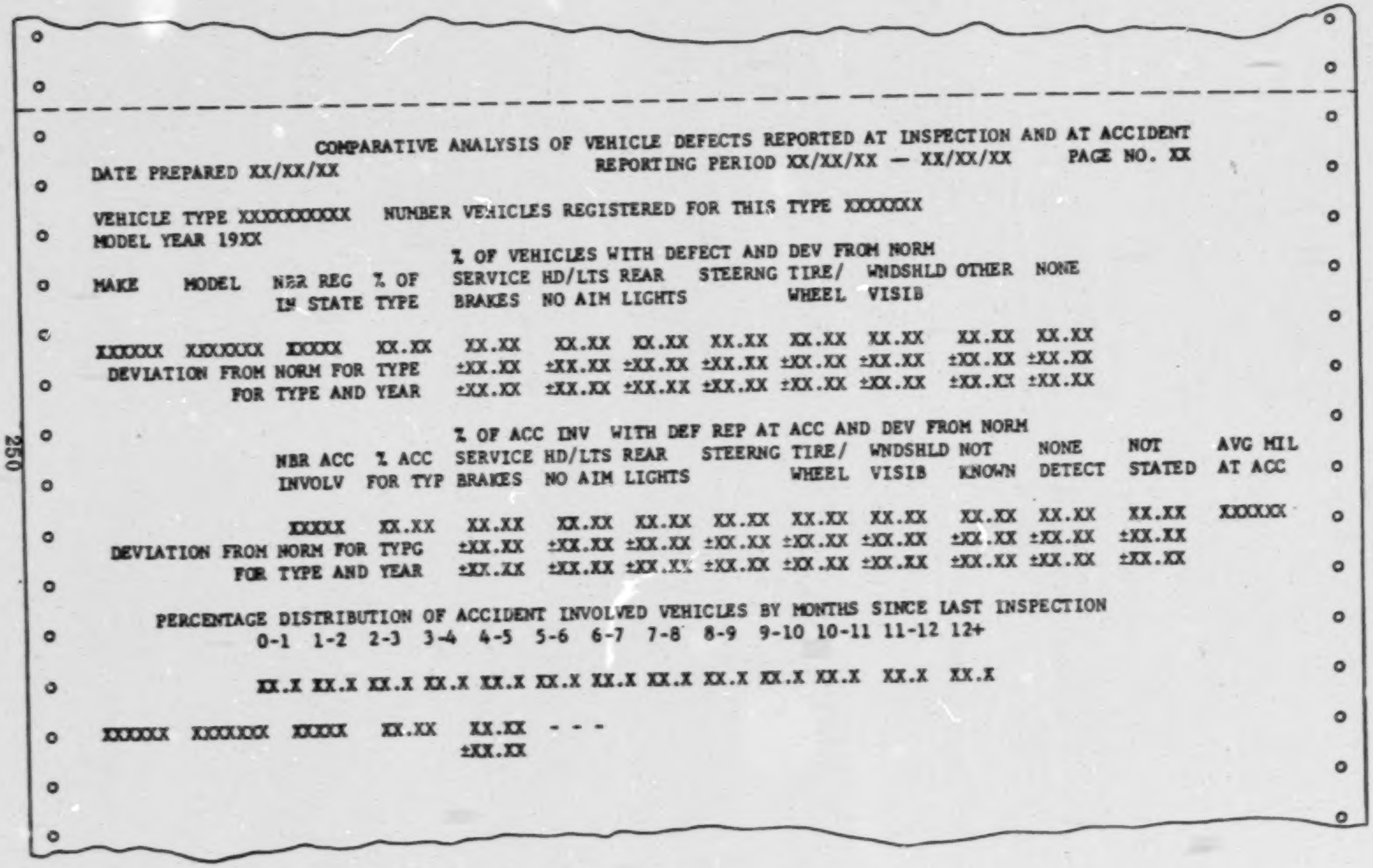
DRIVER EDUCATION VERSUS CRASH INVOLVEMENT

DATE PREPARED: XX/XX/XX STATE OF XXXXXXXXXXXX PERIOD XX/[illegible]XX - XX/XX/XX PAGE XXX

DRIVER AGE	NO OF LIC DR	NO OF LIC DR W EDUC	% W DR EDUCTN	FATALITIES			INJURIES			PROPDAMAGE			ALL CRASHES		
				NO	%OF TOT	%W EDUC	NO	%OF TOT	%W EDUC	NO	%OF TOT	%W EDUC	NO	%OF TOT	%W EDUC
UNDER 16	XXXXXXX	XXXXXX	XX.X	XXXXX	XX.X	XX.X	XXXXX	XX.XX	XX.X	XXXXX	XX.X	XX.X	XXXXX	XX.X	XX.X
MALE	XXXXXX														
FEMALE	XXXXXX														
16	XXXXXXX														
MALE	XXXXXX														
FEMALE	XXXXXX														
17	XXXXXXX														
MALE	XXXXXX														
FEMALE	XXXXXX														
.															
.															
.															
65	XXXXXXX														
MALE	XXXXXX														
FEMALE	XXXXXX														
OVER 65	XXXXXXX														
MALE	XXXXXX														
FEMALE	XXXXXX														

(CLASSROOM AID #5-1)

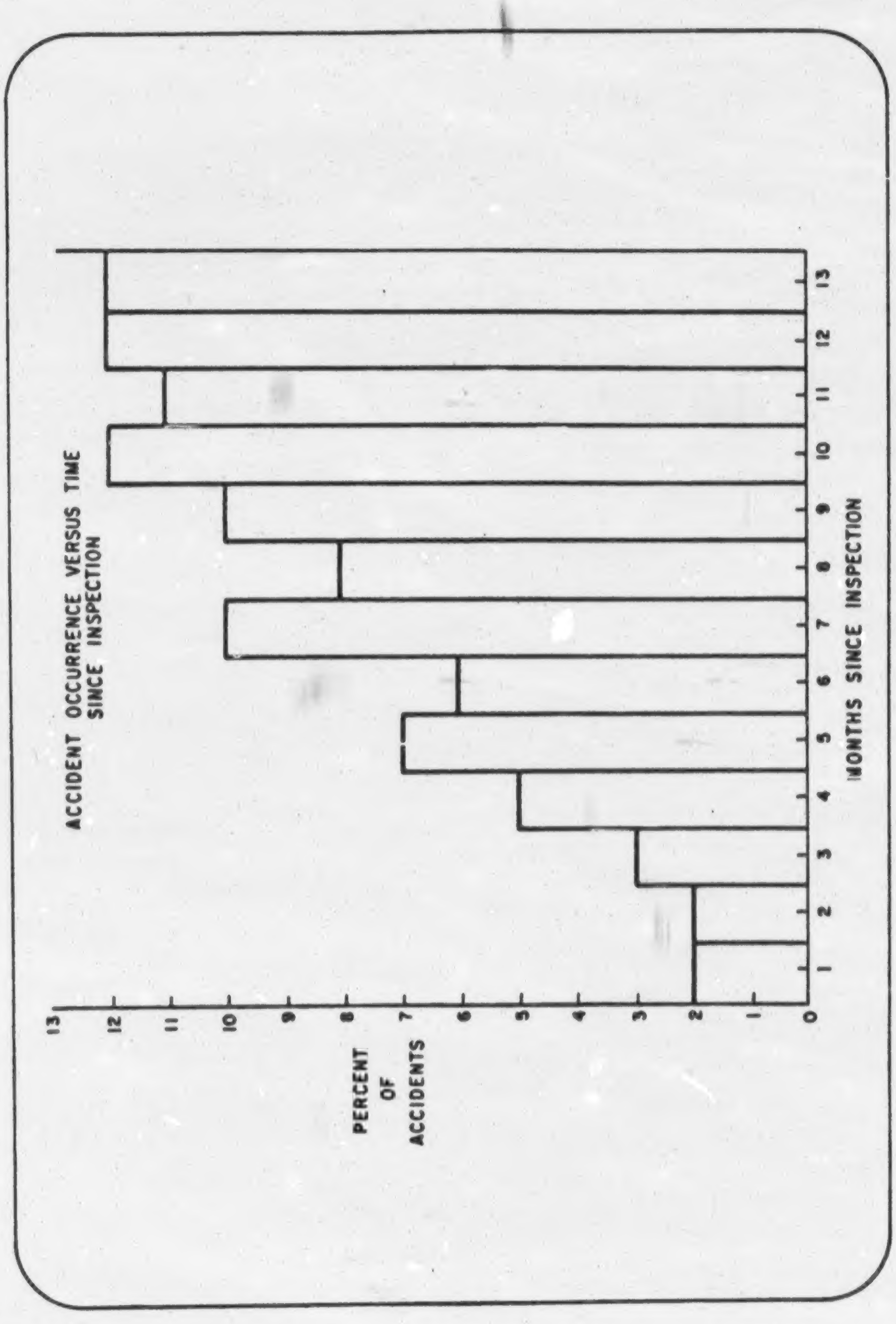
Hypothetical TRS Report Comparing vehicle defects reported at inspection with those reported at crash



```
                COMPARATIVE ANALYSIS OF VEHICLE DEFECTS REPORTED AT INSPECTION AND AT ACCIDENT
DATE PREPARED XX/XX/XX                     REPORTING PERIOD XX/XX/XX — XX/XX/XX     PAGE NO. XX

VEHICLE TYPE XXXXXXXXXX   NUMBER VEHICLES REGISTERED FOR THIS TYPE XXXXXXX
MODEL YEAR 19XX
                                 % OF VEHICLES WITH DEFECT AND DEV FROM NORM
MAKE    MODEL    NBR REG  % OF   SERVICE HD/LTS REAR    STEERNG TIRE/  WNDSHLD OTHER  NONE
                 IN STATE TYPE   BRAKES  NO AIM LIGHTS          WHEEL  VISIB

XXXXXX  XXXXXXX  XXXXX    XX.XX  XX.XX   XX.XX  XX.XX   XX.XX   XX.XX  XX.XX   XX.XX  XX.XX
 DEVIATION FROM NORM FOR TYPE    ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX ±XX.XX
                FOR TYPE AND YEAR ±XX.XX ±XX.XX ±XX.XX  ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX ±XX.XX

                                 % OF ACC INV  WITH DEF REP AT ACC AND DEV FROM NORM
                 NBR ACC  % ACC  SERVICE HD/LTS REAR    STEERNG TIRE/  WNDSHLD NOT    NONE    NOT     AVG MIL
                 INVOLV  FOR TYP BRAKES  NO AIM LIGHTS          WHEEL  VISIB   KNOWN  DETECT  STATED  AT ACC

                 XXXXX    XX.XX  XX.XX   XX.XX  XX.XX   XX.XX   XX.XX  XX.XX   XX.XX  XX.XX   XX.XX   XXXXXX
 DEVIATION FROM NORM FOR TYPG    ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX
                FOR TYPE AND YEAR ±XX.XX ±XX.XX ±XX.XX  ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX ±XX.XX  ±XX.XX

     PERCENTAGE DISTRIBUTION OF ACCIDENT INVOLVED VEHICLES BY MONTHS SINCE LAST INSPECTION
                 0-1  1-2  2-3  3-4  4-5  5-6  6-7  7-8  8-9  9-10 10-11 11-12 12+

                 XX.X XX.X XX.X XX.X XX.X XX.X XX.X XX.X XX.X XX.X XX.X  XX.X  XX.X

XXXXXX  XXXXXXX  XXXXX    XX.XX  XX.XX  - - -
                                 ±XX.XX
```

(CLASSROOM AID #5-2)

Histogram relating crash occurrence to time elapsed since vehicle inspection



(CLASSROOM AID #5-3)

Hypothetical TRS Report summarizing registration status for all registered vehicles by body type

SUMMARY OF REGISTERED VEHICLES BY BODY TYPE, YEAR, MAKE, MODEL AND BODY STYLE

DATE PREPARED XX/XX/XX
STATE OF XXXXXXXXXXXX
REPORTING PERIOD

BODY TYPE XXXXXXXXXX
MODEL YEAR 19XX

			REGISTRATION BY OWNERSHIP CLASS							TOTAL FOR THE PERIOD OF THE FOLLOWING									
MAKE	MODEL	BODY STYLE	PRIVATE	COMPANY	MUNIC	COUNTY	STATE	OTHER	TOTAL	S/R DEN	REIN	DEST	TRNS IN	TRNS OUT	TRNS INTRA	ANN RENEW	NEW REG	STOL VEH	RECOV VEH
XXXXXXXX	XXXXXXX	XXXXX	NNNNN	NNNNN	NNNNN	NNNNN	NNNNN	NNNNN	NNNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN

BODY TYPE: IDENTIFICATION OF ALL CLASSES OF VEHICLES REGISTERED FOR USE ON PUBLIC ROADS, FOR EXAMPLE:

AUTOMOBILES

- All Terrain Vehicle
- Ambulance
- Coach
- Convertible
- Coupe
- Dune Buggy
- Hardtop
- Hardtop 2 DR
- Hardtop 4 DR
- Hearse
- Limousine
- Open body
- Retractable Hardtop
- Roadster
- Sedan
- Sedan 2 DR
- Sedan 4 DR
- Station Wagon
- Stretched Limousine

MOTORCYCLES

- Mini-bike
- Mo-ped
- Motorbike
- Motorcycle
- Motorscooter

TRAILER TYPES

- Auto Carrier
- *Boat
- Cable Reel
- *Camping
- Fire Apparatus
- Flat-bed or platform
- Gondola
- Grain
- Hopper
- Horse
- House Trailer (Mobile Home)
- Livestock
- Logging, Pipe, or Pole
- Lowbed or Lowboy
- Refrigerated Van(Reefer)
- *Semi
- Service
- Single Wheel
- Stake or Rack
- Towed Vehicle
- Tanker
- Tent Trailer
- Travel Trailer
- Truck Mount Camper
- Two Wheel
- Utility
- Van

BUSSES

- Cross-country
- Transit Bus
- School Bus
  - Type 1
  - Type 2

TRUCKS

- Armored Truck
- Beverage Rack
- Carryall
- Chassis
- Chassis and Cab
- Chassis and Module
- Concrete Mixer
- Crone
- Dump
- Fire Truck
- Flat Bed or Platform
- Flatrack
- Fork Lift
- Garbage or Refuse
- Glass Rack
- Grain
- Hopper
- Line Construction
- Livestock Rack
- Lunch Wagon
- Motorized Home
- Pallet
- Panel
- Pickup
- Pickup with Camper Mounted on the Bed
- Refrigerated Truck (Van)
- Sports Van
- Stake or Rack
- Shovel
- Tank
- Tow Truck or Wrecker
- Tractor (Track Type)
- Tractor, Farm (and Other Wheel Types)
- Tractor Truck (Diesel)
- Tractor Truck (Gasoline)
- Travelall
- Truck with Chassis Mount Camper (permanently attached)
- Van (Large Type)
- Van Camper
- Vanette (Including Metro, Step Van, and Handy Van)

Hypothetical TRS Report showing basic statistics for high frequency crash locations

STATE AND FEDERAL HIGHWAYS - HIGH FREQUENCY CRASH LOCATIONS

COUNTY OF XXXXXXXXXX MO YEAR-MO YEAR

				FATALITIES		INJURIES		VEHICLE DAMAGE		CRASHES		RANKING	
MUNICIPALITY (1)	ROUTE NO. (2)	MILEPOINT (3)	CLASS OF TRAFFIC WAY (4)	NO. (5)	±%* (6)	NO. (7)	±%* (8)	NO. (9)	±%* (10)	NO. (11)	±%* (12)	THIS YR (13)	LAST YR (14)
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				XXXXX	±XX.X%	XXXXX	±XX.X%	XXXXX	±XX.X%	XXXXX	±XX.X%	XXXXX	XXXXX

* ±% Deviation from Mean for Highway Class

Hypothetical TRS Report showing percentage of various types of crashes involving highway obstructions or debris

CRASHES INVOLVING OBSTRUCTIONS OR DEBRIS ON ROADWAY

DATE PREPARED: XX/XX/XX JURISDICTION XXXXXXXX PERIOD PAGE

TYPE OF CRASH	HAZARDOUS MATERIALS	FALLEN TREE/ROCK	MUD/LAND SLIDE	SNOW SLIDE	MISC OBJECT DEBRIS	TOTAL DEBRIS	TOTAL CRASHES	% DEBRIS
FATAL	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXXXX	XXXX
INJURY	XXXX							
PROP DAM	XXXX							
TOTALS	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXXXX	XXXX

MODULE 6

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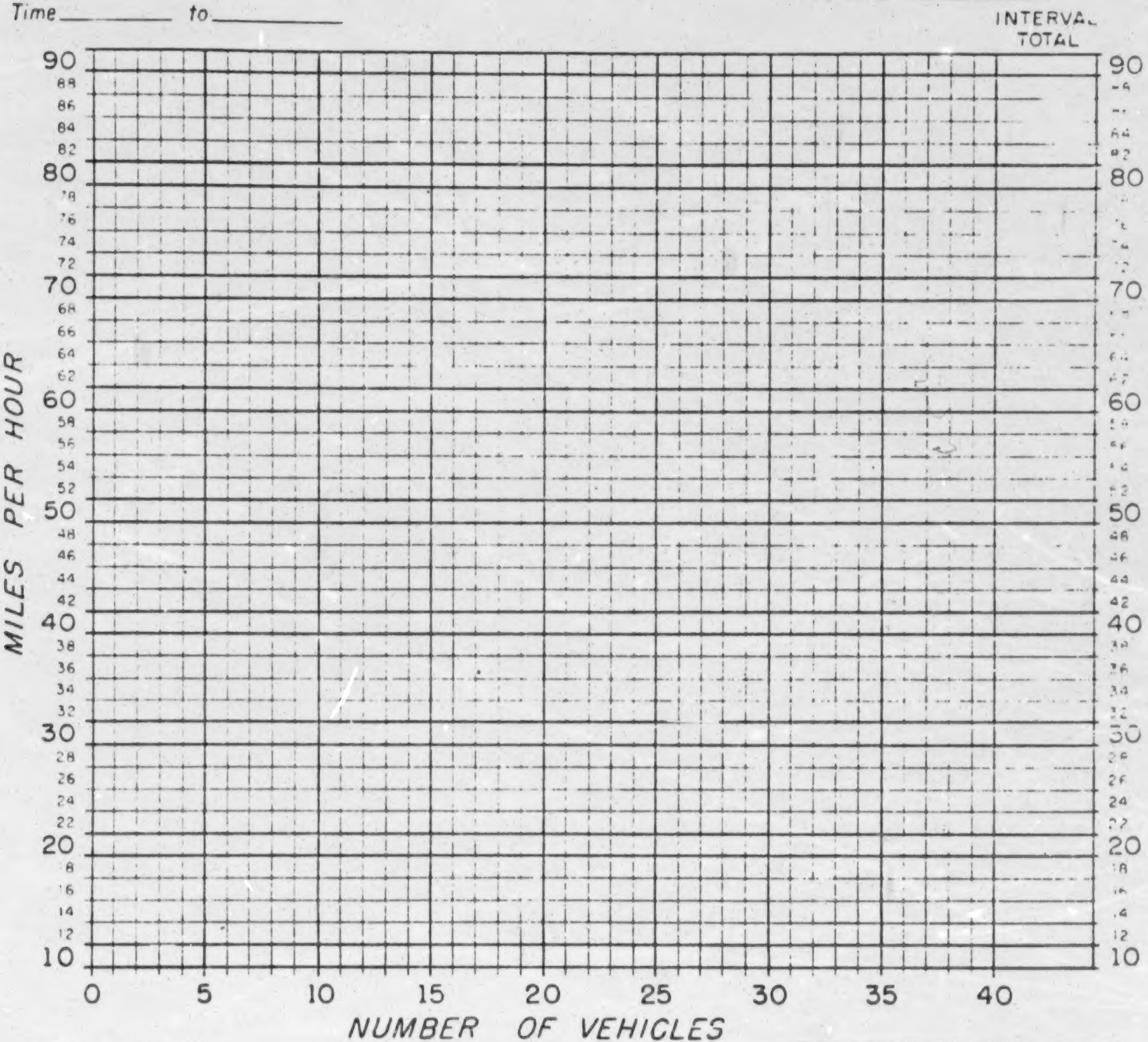
(CLASSROOM AID #6-3)

SPEED DISTRIBUTION CHART

Day and Date _______________
Station No _______________
Location _______________
Time ________ *to* ________

Weather _______________
No. of Lanes _______________

Direction _______________
Type Surface _______________
Condition _______________



Modal Speed __________ M.P.H
Pace { __________ M.P.H
to __________ M.P.H
% Cars in pace __________

% Cars over pace __________
% Cars under pace __________
Average Speed __________
85% of" " __________
90% of" " __________

Remarks: ______________________________

____

LEGEND

X PASSENGER CAR
T TRUCK
B BUS
Ŧ TRACTOR TRAILER

Total Observations __________ *Observer* _______________

(CLASSROOM AID #7-1)

PART A

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INDICATE NORTH WITH ARROW

ACCIDENT DIAGRAM

POINT OF IMPACT (USE CODE)
VEHICLE
1 ☐ 2 ☐ 3 ☐

LOCATE BY TAPE MEASUREMENT TO TWO PERMANENT REFERENCE POINTS THE POINT OF IMPACT, TWO CORNERS OF EACH VEHICLE IN ITS FINAL POSITION AND EACH END OF ALL SKID MARKS. ACCURATELY SHOW THE SHAPE AND LENGTH OF ALL SKID MARKS. IDENTIFY ALL VEHICLES AND ROADWAYS.

VEH.	DIRECTION BEFORE ACCIDENT HEADED N S E W	ON STREET OR HIGHWAY	OBJECT STRUCK 1ST	2ND	FINAL LOCATION OF VEHICLES	DISTANCE TRAVELED AFTER IMPACT	SPEED EST.	POSTED	SKIDMARK DATA FR	FL	RR	RL
1	☐☐☐☐											
2	☐☐☐☐											
3 OR PED	☐☐☐☐											

EMERGENCY SERVICES

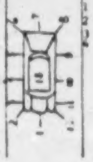
☐ AMBULANCE ☐ RESCUE UNIT CALLED BY ________ AT ____ ☐ A.M. ☐ P.M.

ARRIVED ON SCENE ______ ☐ A.M. ☐ P.M. DEPARTED AT ________ ☐ A.M. ☐ P.M.

SPECIAL EQUIPMENT NEEDED ________ AVAILABLE ☐ YES ☐ NO

SOURCE OF FIRST AID AVAILABLE:
1 ☐ DOCTOR OR NURSE
2 ☐ CERTIFIED POLICE OFFICER
3 ☐ CERTIFIED MEDICAL ATTENDANT
4 ☐ OTHER ____ ____
5 ☐ NONE

POSITION (USE CODE)	V1	V2	V3 OR PED			
☐	☐	☐	☐	FIRST AID GIVEN ______	INJURED TAKEN TO ______	BY ______
☐	☐	☐	☐	FIRST AID GIVEN ______	INJURED TAKEN TO ______	BY ______
☐	☐	☐	☐	FIRST AID GIVEN ______	INJURED TAKEN TO ______	BY ______

SAFETY EQUIPMENT (use safety equip. codes) VEHICLE 1 2 3	AREA DAMAGED	DAMAGE SCALE	DAMAGE ESTIMATE	SEAT LOCATION	EJECTION	SAFETY EQUIPMENT SEAT BELTS SHOULDER HARNESS	INJURY
☐☐☐ Headrest ☐☐☐ Collapsable Steer.Column ☐☐☐ Recessed and Padded Dash ☐☐☐ Heavy Laminated Windshld ☐☐☐ Other (Explain)		1 - LIGHT 2 - MODERATE 3 - HEAVY 4 - ROLLED OR BURNED	1 - UNDER $50 2 - $50-$200 3 - $200-$500 4 - $500-$1000 5 - $1000-$2000 6 - OVER $2000	1 - FRONT LEFT 2 - FRONT CTR. 3 - FRONT RIGHT 4 - REAR LEFT 5 - REAR CTR. 6 - REAR RIGHT 7 - OCCUPANT OF SPECIAL VEH. 8 - UNKNOWN	1 - NOT EJECTED 2 - PARTIALLY EJECTED 3 - TOTALLY EJECTED 4 - UNKNOWN IF EJECTED 5 - WEARING HELMET 6 - NOT WEARING HELMET	1 - NOT INSTALLED 2 - INSTALLED, NOT IN USE 3 - IN USE (TOLD) 4 - IN USE (OBSERVED) 5 - USE UNKNOWN 6 - EQUIPMENT FAILED	1 - FATAL 2 - SEVERE 3 - NOTICEABLE 4 - COMPLAINT OF PAIN OR MOMENTARY UNCONSCIOUSNESS 5 - NONE

EMERGENCY SERVICES

☐ AMBULANCE ☐ RESCUE UNIT CALLED BY ____________ AT ☐ A.M. ☐ P.M.

ARRIVED ON SCENE ____________ ☐ A.M. ☐ P.M. DEPARTED AT ____________ ☐ A.M. ☐ P.M.

SPECIAL EQUIPMENT NEEDED ____________ AVAILABLE ☐ YES ☐ NO

SOURCE OF FIRST AID AVAILABLE:
1☐ DOCTOR OR NURSE
2☐ CERTIFIED POLICE OFFICER
3☐ CERTIFIED MEDICAL ATTENDANT
4☐ OTHER ______
5☐ NONE

POSITION (USE CODE)	V1	V2	V3 OR PED			
☐	☐	☐	☐	FIRST AID GIVEN ____________	INJURED TAKEN TO ____________	BY ____________
☐	☐	☐	☐	FIRST AID GIVEN ____________	INJURED TAKEN TO ____________	BY ____________
☐	☐	☐	☐	FIRST AID GIVEN ____________	INJURED TAKEN TO ____________	BY ____________

For this Classroom Aid, obtain copy or copies of EMS Unit Report forms and/or EMF Reports used in your State, and prepare one or more classroom aids for use in this section.

SAME AS STUDY AID #8-3

SUMMARY PERIOD	
CURRENT	
PREVIOUS	

ENFORCEMENT TOTAL ACTION SUMMARY

TOTAL MOVING VIOLATIONS

PERIOD	WARNINGS	COMPLAINTS	ARRESTS	TOTAL	VOIDS

COURT ACTION

PERIOD	CASES PENDING	COMPLAINTS REQUESTED	TOTAL CASES	COMPLAINTS DENIED	CONVICTIONS PENALTY	FILED	CASES PENDING

DRIVING UNDER THE INFLUENCE VIOLATIONS

	NUMBER	
ARRESTS, DRIVING UNDER INFL.		
ARRESTS, DRIVING UNDER INFLUENCE		
CONVICTIONS, DRIVING UNDER INFL.		
CHARGE DISMISSED		
CONVICTED ON LESSER CHARGE		
NOT GUILTY		
CONVICTIONS APPEALED TO SUPERIOR COURT		
CONVICTIONS UPHELD		
CHEMICAL TESTS OFFERED		
CHEMICAL TESTS REFUSED		
CHEMICAL TESTS ADMINISTERED		

EQUIPMENT VIOLATIONS

	NUMBER	
CITATIONS ISSUED		
EQUIPMENT TAGS ISSUED		
TAGS RETURNED TO POLICE		
TAGS FORWARDED FOR REG.		
OTHER		

LICENSE & REGISTRATION VIOLATIONS

	ARRESTS-CITATIONS	
UNREGISTERED VEHICLE		
UNINSURED VEHICLE		
WITHOUT LICENSE		
JUNIOR OPERATOR		
NO LICENSE		
LICENSE SUSPENDED		
LICENSE REVOKED		
OTHER		

PARKING VIOLATIONS

	NUMBER	
OVERTIME AT METER		
ALL NIGHT VIOLATION		
RESTRICTED AREA		
DOUBLE PARKING		
OTHER		

PEDESTRIAN VIOLATIONS

PERIOD	WARNINGS	COURT COMPL.	ARRESTS	TOTAL	VOIDS

(CLASSROOM AID #8-3)

DAILY REPORT OF TRAFFIC UNIT

Officer: ______________________________ Date: ______________

Assignment: ____________________________ Shift: _____ ________

Vehicle No.: ________ Speed. Out: _______ Speed. In: _______ Miles: ________

Moving Viol. Arrests: ___ Convictions: ___ Warnings: ___ Accident Arrests: ____

Other Traffic Arrests: ___ Convictions: ___ Warnings: ___ Non-Traffic Arrests: __

Activity	Hours	Activity	Hours
Patrolling		*Escorting	
Accident Investigation		*Special Duties	
Report Writing		*Other Traffic	
Traffic Court		*Non-Traffic	
Fixed Post		Overtime	

*Explain Briefly: ____

____

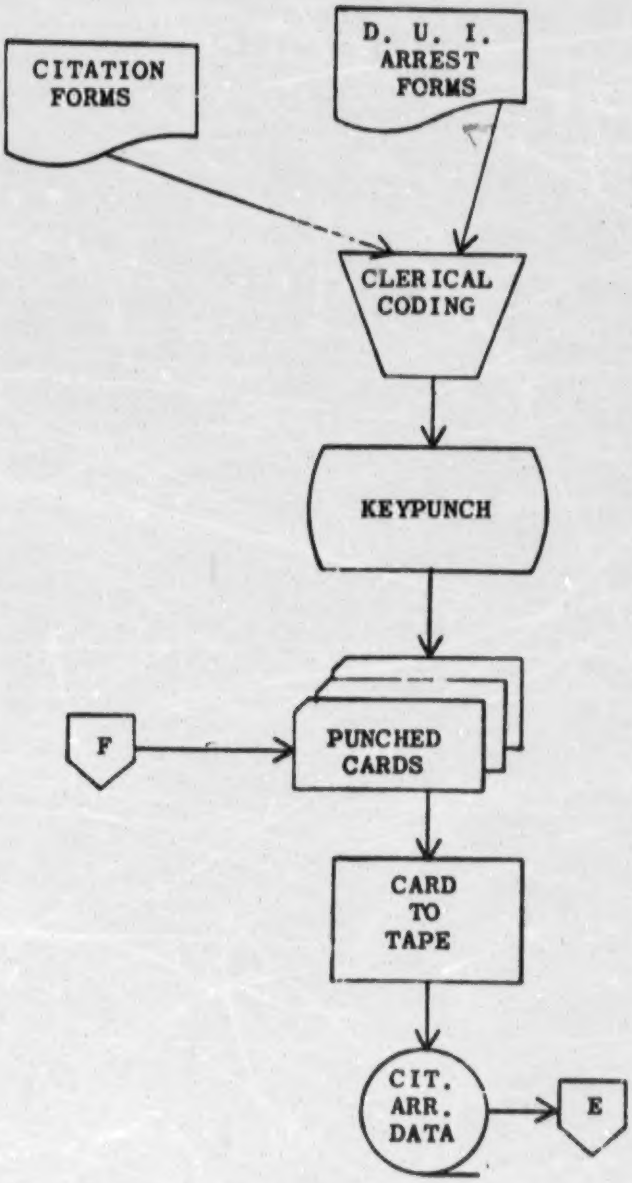
LOG

Incident Type	Location of Incident	Disposition	Time		
			Rec'd.	Arr'd.	Comp.

Comments (Use back if needed):

PART A

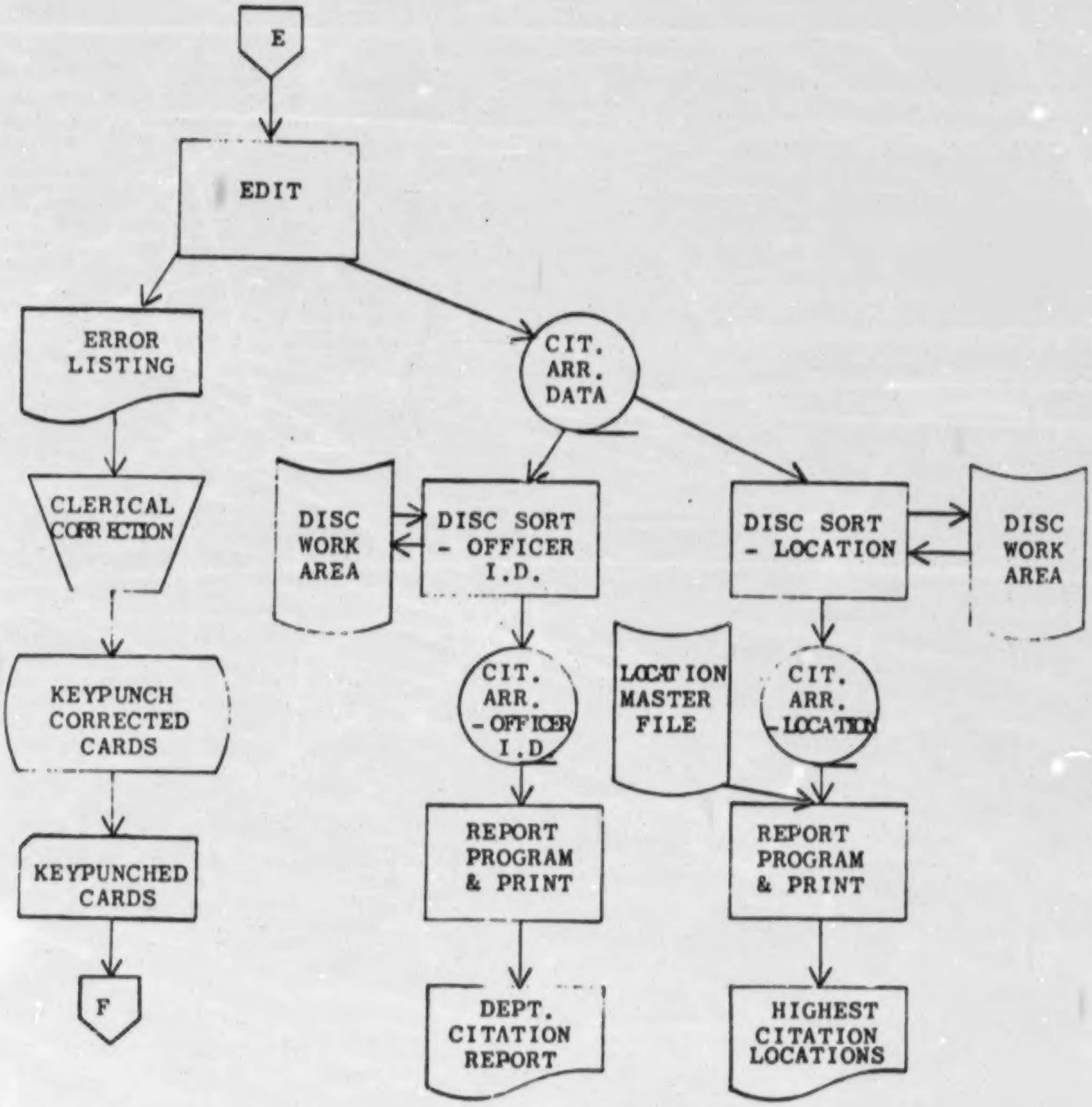
Weekly Flow of Citation/Arrest Data with Computerized System


CITATION FORMS
D. U. I. ARREST FORMS
CLERICAL CODING
KEYPUNCH
F
PUNCHED CARDS
CARD TO TAPE
CIT. ARR. DATA
E

Clerical coding
- Violation type
- Location number

PART B

Weekly Flow of Citation/Arrest Data with Computerized System (Cont'd)


E
EDIT
ERROR LISTING
CIT. ARR. DATA
CLERICAL CORRECTION
DISC WORK AREA
DISC SORT - OFFICER I.D.
DISC SORT - LOCATION
DISC WORK AREA
KEYPUNCH CORRECTED CARDS
CIT. ARR. - OFFICER I.D.
LOCATION MASTER FILE
CIT. ARR. - LOCATION
KEYPUNCHED CARDS
REPORT PROGRAM & PRINT
REPORT PROGRAM & PRINT
F
DEPT. CITATION REPORT
HIGHEST CITATION LOCATIONS

Hypothetical TRS Report relating driver education to crash involvement

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                                        DRIVER EDUCATION VERSUS CRASH INVOLVEMENT
DATE PREPARED:  XX/XX/XX                 COUNTY OF XXXXXXXXXXX            PERIOD XX/XX/XX--XX/XX/XX    PAGE XXX
DRIVER AGE NO OF   NO OF LIC  % W DR  F A T A L I T I E S        I N J U R I E S   PROP D A M A G E        ALL CRASHES
           LIC DR  DR  W EDUC EDUCTN  NO    %OF  TOT  %W EDUC NO  %OF  TOT %W EDUC NO  %OF TOT % W EDUC  NO  %OF TOT %W EDUC

UNDER 16   XXXXXXX XXXXXX     XX.X  XXXXX     XX.X    XX.X XXXXX  XX.XX   XX.X XXXXX   XX.X   XX.X XXXXX  XX.X    XX.X
  MALE      XXXXXX
  FEMALE    XXXXXX
  16       XXXXXXX
  MALE      XXXXXX
  FEMALE    XXXXXX
  17       XXXXXXX
  MALE      XXXXXX
  FEMALE    XXXXXX
   .
   .
   .
  65       XXXXXXX
  MALE      XXXXXX
  FEMALE    XXXXXX
OVER 65    XXXXXXX
  MALE      XXXXXX
  FEMALE    XXXXXX
```

Hypothetical TRS Report relating type of driver education to crash involvement

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                         TYPE OF DRIVER EDUCATION BY AGE OF DRIVER AND CRASH INVOLVEMENT

DATE PREPARED:  XX/XX/XX        COUNTY OF XXXXXXXXXX      PERIOD XX/XX/XX - XX/XX/XX      PAGE XXX

DRIVERS    NUMBER     ------------TYPE OF DRIVER EDUCATION-----------    ----TOTALS---------
  AGE        OF       NONE       UNKNOWN COMMERCIAL HI SCHOOL MILITARY   NONE &     WITH
           DRIVERS                                                       UNKNOWN    EDUCATION

14         XXXXXXXX   XXXXXXXX   XXXXXXXX XXXXXXXX  XXXXXXXX  XXXXXXXX   XXXXXXXX   XXXXXXXX
 FA/CRSH/INV            XXX
   CITED                XXX
   CONV                 XXX
 IN/CRSH/INV            XXX
   CITED                XXX
   CONV                 XXX
 PD/CRSH/INV
   CITED
   CONV
15         XXXXXXXX
 FA/CRSH/INV
   .
   .
   .
   .
   .
16
 .
 .
 .
TOTALS     XXXXXXXX   XXXXXXXX   XXXXXXXX XXXXXXXX  XXXXXXXX  XXXXXXXX   XXXXXXXX   XXXXXXXX
```

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